

Applied Science &
Technology Index
1965

Abbreviations of Periodicals Indexed

For full information consult pages vii to x

- AIAA J—AIAA Journal
 AICHE J—Journal of the American Institute of Chemical Engineers
 ASHRAE J—ASHRAE Journal
 ASME Trans—Transactions of the American Society of Mechanical Engineers
 Air Cond Heat & Ven—Air Conditioning, Heating and Ventilating
 Aircraft Eng—Aircraft Engineering
 Am Assn Pet Geologists Bul—Bulletin of the American Association of Petroleum Geologists
 Am Cer Soc Bul—Bulletin of the American Ceramic Society
 Am Cer Soc J—Journal of the American Ceramic Society
 Am Chem Soc J—Journal of the American Chemical Society
 Am Concrete Inst J—Journal of the American Concrete Institute
 Am Dyestuff Rep—American Dyestuff Reporter
 Am Gas Assn Mo—American Gas Association Monthly
 Am Inst Chem Eng J. See AICHE J
 Am J Clinical Nutrition—American Journal of Clinical Nutrition
 Am J Phys—American Journal of Physics
 Am J Pub Health—American Journal of Public Health and the Nation's Health
 Am Mach—American Machinist
 Am Mineralogist—American Mineralogist, Journal of the Mineralogical Society of America
 Am Oil Chem Soc J—Journal of the American Oil Chemists' Society
 Am Perfumer—American Perfumer and Cosmetics
 Am Scientist—American Scientist
 Am Soc C E Proc—Proceedings of the American Society of Civil Engineers
 Am Soc Heat Refrig & Air-Cond Eng J. See ASHRAE J
 Am Soc Mech Eng Trans. See ASME Trans
 Am Water Works Assn J—Journal American Water Works Association
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 Automobile Eng—Automobile Engineer
 Automotive Ind—Automotive Industries

 Bell Lab Rec—Bell Laboratories Record
 Bell System Tech J—Bell System Technical Journal
 Brit Plastics—British Plastics

 Can Chem Process—Canadian Chemical Processing
 Can J Chem Eng—Canadian Journal of Chemical Engineering
 Can Min & Met Bul—Canadian Mining and Metallurgical Bulletin
 Cer Ind—Ceramic Industry
 Chem & Eng N—Chemical and Engineering News
 Chem & Ind—Chemistry and Industry
 Chem Eng—Chemical Engineering
 Chem Eng Prog—Chemical Engineering Progress
 Civil Eng—Civil Engineering, the Magazine of Engineered Construction

 Coal Age—Coal Age
 Combustion—Combustion
 Comp Air Mag—Compressed Air Magazine
 Control Eng—Control Engineering
 Corrosion—Corrosion

 Diesel Equip Supt—Diesel Equipment Superintendent
 Dom Eng—Domestic Engineering
 Drug & Cosmetic Ind—Drug and Cosmetic Industry

 Econ Geol—Economic Geology and the Bulletin of the Society of Economic Geologists
 Elec Com—Electrical Communication
 Elec Constr & Maint—Electrical Construction and Maintenance
 Elec World—Electrical World
 Electro-Tech—Electro-Technology
 Electrochem Soc J—Journal of the Electrochemical Society
 Electronic Eng—Electronic Engineering
 Electronic Ind—Electronic Industries
 Electronics—Electronics
 Eng & Instrumentation. See J Res Nat Bur Stand
 Eng & Min J—Engineering and Mining Journal
 Eng J—Engineering Journal
 Eng N—Engineering News-Record
 Engineer—Engineer
 Engineering—Engineering

 Food Eng—Food Engineering
 Food Tech—Food Technology
 Foundry—Foundry
 Franklin Inst J—Journal of the Franklin Institute
 Fundamentals. See Ind & Eng Chem

 Gas—Gas
 Gas Age—Gas Age
 Geol Soc Bul—Bulletin of the Geological Society of America
 Geophysics—Geophysics
 Glass Ind—Glass Industry

 Heating-Piping—Heating, Piping and Air Conditioning
 Hydraulics & Pneumatics—Hydraulics and Pneumatics
 Hydrocarbon Process & Pet Refiner—Hydrocarbon Processing and Petroleum Refiner

 IEEE Proc—Proceedings of the IEEE
 IEEE Trans Applications & Ind—IEEE Transactions on Applications and Industry
 IEEE Trans Com & Electronics—IEEE Transactions on Communication and Electronics
 IEEE Trans Com Tech—IEEE Transactions on Communication Technology
 IEEE Trans Ind & Gen Applications—IEEE Transactions on Industry and General Applications
 IEEE Trans Power Apparatus & Systems—IEEE Transactions on Power Apparatus and Systems
 ISA J—ISA Journal
 Illum Eng—Illuminating Engineering, The Journal of the Illuminating Engineering Society

ABBREVIATIONS OF PERIODICALS INDEXED

Ind & Eng Chem—Industrial and Engineering Chemistry
 Ind Electronics—Industrial Electronics
 Ind Finishing—Industrial Finishing
 Ind Med—Industrial Medicine and Surgery
 Ind Phot—Industrial Photography
 Ind Quality Control—Industrial Quality Control
 Inland Ptr/Am Lithogr—Inland Printer/American Lithographer
 Inst E E Proc—Proceedings of the Institution of Electrical Engineers
 Inst Mech Eng Proc—Proceedings of the Institution of Mechanical Engineers
 Inst Metals J—Journal of the Institute of Metals
 Inst Pet J—Journal of the Institute of Petroleum
 Instrument Soc Am J. See ISA J
 Instruments & Control Systems—Instruments and Control Systems
 Iron Age—Iron Age
 Iron & Steel Eng—Iron and Steel Engineer
 Iron & Steel Inst J—Journal of the Iron and Steel Institute

J Agri & Food Chem—Journal of Agricultural and Food Chemistry
 J Ap Chem—Journal of Applied Chemistry
 J Ap Mech. See ASME Trans
 J Ap Phys—Journal of Applied Physics
 J Basic Eng. See ASME Trans
 J Colloid Sci—Journal of Colloid Science
 J Eng Ind. See ASME Trans
 J Eng Power. See ASME Trans
 J Geol—Journal of Geology
 J Heat Transfer. See ASME Trans
 J Math & Phys—Journal of Mathematics and Physics
 J Metals—Journal of Metals
 J Nutrition—Journal of Nutrition
 J Pet Tech—Journal of Petroleum Technology
 J Res Nat Bur Stand—Journal of Research of the National Bureau of Standards
 J Sci Instr—Journal of Scientific Instruments

Light Metal Age—Light Metal Age
 Lub Eng—Lubrication Engineering

Mach—Machinery
 Machine Design—Machine Design
 Mag of Stand—Magazine of Standards
 Manuf Chem—Manufacturing Chemist and Aerosol News
 Marine Eng/Log—Marine Engineering/Log
 Materials in Design Eng—Materials in Design Engineering
 Materials Res & Stand—Materials Research & Standards
 Math & Math Phys. See J Res Nat Bur Stand
 Mech Eng—Mechanical Engineering
 Metal Finishing—Metal Finishing
 Metal Prog—Metal Progress
 Metallurgia—Metallurgia, the British Journal of Metals
 Mill & Factory—Mill & Factory
 Min Cong J—Mining Congress Journal
 Min Eng—Mining Engineering
 Mod Materials Handling—Modern Materials Handling
 Mod Metals—Modern Metals
 Mod Phot—Modern Photography
 Mod Plastics—Modern Plastics
 Mod Textiles Mag—Modern Textiles Magazine

Naval Eng J—Naval Engineers Journal
 Nucleonics—Nucleonics

Oil & Gas J—Oil and Gas Journal
 Op Res—Operations Research

Paper Ind—Paper Industry
 Pet Management—Petroleum Management
 Phys & Chem. See J Res Nat Bur Stand
 Phys Today—Physics Today
 Pit & Quarry—Pit and Quarry
 Plant Eng—Plant Engineering
 Plastics Tech—Plastics Technology
 Plastics World—Plastics World
 Plating—Plating
 Power—Power
 Power Eng—Power Engineering
 Proc Design. See Ind & Eng Chem
 Product Eng—Product Engineering
 Product Res & Develop. See Ind & Eng Chem
 Prog Arch—Progressive Architecture
 Pub Roads—Public Roads
 Pub Works—Public Works

Q S T—QST

RCA R—RCA Review
 R Sci Instr—Review of Scientific Instruments
 Radio & Electronic Eng—Radio and Electronic Engineer
 Radio Corp Am R. See RCA R
 Radio-Electronics—Radio-Electronics
 Radio Science. See J Res Nat Bur Stand
 Res/Develop—Research/Development
 Roads & Sts—Roads and Streets
 Rock Prod—Rock Products
 Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society
 Rubber Age—Rubber Age
 Rubber Chem & Tech—Rubber Chemistry and Technology
 Rubber World—Rubber World

SAE J—SAE Journal
 SMPTE J—Journal of the Society of Motion Picture and Television Engineers
 Safety Maint—Safety Maintenance
 Sci Am—Scientific American
 Soap & Chem Spec—Soap and Chemical Specialties
 Soc Automotive Eng J. See SAE J
 Soc Dyers & Col J—Journal of the Society of Dyers and Colourists
 Soc Motion Picture & Tv Eng J. See SMPTE J
 Space/Aeronautics—Space/Aeronautics
 Steel—Steel

Tappi—Tappi
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 Textile Ind—Textile Industries
 Textile Res J—Textile Research Journal
 Textile World—Textile World
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 Traffic Q—Traffic Quarterly

WPCF J—Journal of the Water Pollution Control Federation
 Water & Sewage Works—Water & Sewage Works
 Water Works & Wastes Eng—Water Works and Wastes Engineering
 Welding Eng—Welding Engineer
 Welding J—Welding Journal
 Westinghouse Eng—Westinghouse Engineer
 Wire & Wire Prod—Wire and Wire Products
 Wireless World—Wireless World

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E. T.

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 Wireless World—Wireless World

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- AIAA Journal.** \$30 m American Institute of Aeronautics and Astronautics, Inc, 1290 Avenue of the Americas, New York 10019
- AIChE Journal.** \$25 bi-m American Institute of Chemical Engineers, 345 E 47th St, New York 10017
- ASHRAE Journal.** \$10 m American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc, 345 E 47th St, New York 10017
- ASME Transactions.** \$15 American Society of Mechanical Engineers, 345 E 47th St, New York 10017
- Published in 5 parts: ser A, Journal of Engineering for Power, q (Ja); ser B, Journal of Engineering for Industry, q (F); ser C, Journal of Heat Transfer, q (F); ser D, Journal of Basic Engineering, q (MR); ser E, Journal of Applied Mechanics, q (Mr)
- \$7.50 to members and affiliates
- Air Conditioning, Heating and Ventilating.** \$7 m Industrial Press, Inc, 93 Worth St, New York 10013
- Aircraft Engineering.** 60s; U.S. \$9; Canada \$9 m Bunhill Publications, Ltd, 4 Ludgate Circus, London, E.C.
- American Association of Petroleum Geologists Bulletin.** \$30 m American Association of Petroleum Geologists, Inc, Box 979, Tulsa Okla. 74101
- American Ceramic Society Bulletin.** \$6 m American Ceramic Society, 4055 N High St, Columbus, Ohio 43214
- American Ceramic Society Journal: Ceramic Abstracts.** \$25 including Ceramic Bulletin m American Ceramic Society, 4055 N High St, Columbus, Ohio 43214
- American Chemical Society Journal.** \$26 s-m American Chemical Society, 1155 16th St, N.W., Washington, D.C. 20036
- American Concrete Institute Journal.** \$18 m American Concrete Institute, P.O. Box 4754 Redford Station, Detroit, Mich. 48219
- American Dye stuff Reporter.** \$7.50 bi-w Howes Pub. Co, Inc 44 E 23d St, New York 10010
- American Gas Association Monthly.** \$5 m (bi-m JI-Ag) American Gas Assn, Inc, 605 Third Av, New York 10016
- American Institute of Chemical Engineers Journal.** See A I Ch E Journal
- American Journal of Clinical Nutrition.** \$15 m The American Journal of Clinical Nutrition, Inc, 466 Lexington Av, New York 10017
- American Journal of Physics.** \$12.50 m American Institute of Physics, Inc, 335 E 45th St, New York 10017
- American Journal of Public Health and the Nation's Health.** \$15 m American Public Health Association, Inc, 1790 Broadway, New York 10019
- American Machinist.** \$20 bi-w McGraw-Hill, Inc, 330 W 42d St, New York 10036
- American Mineralogist, Journal of the Mineralogical Society of America.** members \$8 bi-m U.S. Geological Survey, Washington, D.C. 20242
- American Oil Chemists' Society Journal.** \$12 m American Oil Chemists' Society, 35 E Wacker Drive, Chicago 60601
- American Perfumer and Cosmetics.** \$5 m Allured Pub. Corp. 1031 South Blvd, Oak Park, Ill. 60022
- October is Documentary Edition. \$5
- American Scientist.** \$3.50 q Sigma XI, 51 Prospect St, New Haven, Conn. 06511
- American Society of Civil Engineers Proceedings.** m American Society of Civil Engineers, 345 E 47th St, New York 10017
- Proceedings of each division published separately. AT, CO, IR, UP, HW, PL, PO, PP, SU \$4; EM, HY, SA, SM, ST \$8
- American Society of Heating, Refrigerating and Air-Conditioning Engineers Journal.** See ASHRAE Journal
- American Society of Mechanical Engineers Transactions.** See ASME Transactions
- American Water Works Association Journal.** m American Water Works Assn, Inc, 2 Park Av, New York 10016
- Analytical Chemistry.** \$5 m American Chemical Society, 1155 16th St, N.W., Washington, D.C. 20036
- Architectural Record.** \$5.50 m McGraw-Hill Publications, 330 W 42d St, New York 10036
- Extra number published in Mid-May
- Archives of Environmental Health.** \$12 m American Medical Association, 535 N Dearborn St, Chicago 60610
- Association for Computing Machinery Journal.** \$15 q Association for Computing Machinery, 211 E 43d St, New York 10017
- Astronautics & Aeronautics.** m American Institute of Aeronautics and Astronautics, 1290 Avenue of the Americas, New York 10019
- Price on request
- Audio.** \$5 m Radio Magazines, Inc, 204 Front St, Mineola, New York 11501
- Audio Engineering Society Journal.** \$11 q Audio Engineering Society, P.O. Box 383, Madison Square Station, New York 10010
- Automation.** \$10 m Penton Pub. Co. Penton Bldg, Cleveland 44113
- Automobile Engineer.** £4 5s; U.S. \$12; Canada \$12 m Hiffe Transport Publications, Ltd, Dorset House, Stamford St, London, S.E. 1
- Extra number published in May
- Automotive Industries.** \$10 s-m Chilton Co. Chestnut & 56th Sts, Philadelphia 19139
- Bell Laboratories Record.** \$2 m Bell Telephone Laboratories, Inc, 463 West St, New York 10014
- Bell System Technical Journal.** \$5 10 times a yr American Telephone and Telegraph Co, 195 Broadway, New York 10007
- Published bi-monthly in 1964; changed January, 1965
- British Plastics.** £3 10s; U.S. \$11.50 Canada \$11.50 m Hiffe Industrial Publications, Ltd, Dorset House, Stamford St, London, S.E. 1
- Canadian Chemical Processing.** \$6; U.S. \$10 m Southam Business Publications, Ltd, 1450 Don Mills Rd, Don Mills, Ontario, Canada 416
- Canadian Journal of Chemical Engineering.** \$20; U.S. \$22.50 bi-m Chemical Institute of Canada, 48 Rideau St, Ottawa 2, Ont.
- Canadian Mining and Metallurgical Bulletin.** \$10; U.S. \$12 m Canadian Institute of Mining and Metallurgy, 906 Drummond Bldg, Montreal, Que.
- Ceramic Industry.** \$5 m Cannhens Pub. Co. Inc, 6 So Wabash Av, Chicago 60603
- Chemical & Engineering News.** \$6 w American Chemical Society, 1155 16th St, N.W., Washington, D.C. 20036
- Chemical Engineering.** \$3 bi-w McGraw-Hill Inc, 330 W 42d St, New York 10036
- Chemical Engineering Progress.** \$25 m American Institute of Chemical Engineers, 345 E 47th St, New York 10017
- Chemistry and Industry.** £7 w Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- Civil Engineering, the Magazine of Engineered Construction.** \$5 m American Society of Civil Engineers, 345 E 47th St, New York 10017
- Coal Age.** \$3 m McGraw-Hill, Inc, 330 W 42d St, New York 10036
- Combustion.** \$4 m Combustion Pub. Co, Inc, 277 Park Av, New York 10017
- Compressed Air Magazine.** \$5 m Compressed Air Magazine Co, 942 Memorial Parkway, Phillipsburg, N.J. 08865
- Control Engineering.** \$10 m Reuben H. Donnelly Corp, 466 Lexington Av, New York 10017
- Corrosion.** \$10 m National Association of Corrosion Engineers, Inc, 980 M & M Bldg, Houston, Tex. 77002
- Diesel Equipment Superintendent.** \$4 m Diesel Publications, Inc, 80 Lincoln Av, Stamford, Conn. 06904
- Domestic Engineering.** \$10 m Medalist Publications Inc, 1801 Prairie Av, Chicago 60616
- Drug & Cosmetic Industry.** \$5 m Drug Markets, Inc, 101 W 31st St, New York 10001

- Economic Geology and the Bulletin of the Society of Economic Geologists.** \$8.50 s-q Economic Geology Pub. Co., M. M. Leighton, Business Mgr. Urbana, Ill. 61801
- Electrical Communication.** \$2 q International Telephone and Telegraph Corp., 320 Park Av., New York 10022
- Electrical Construction and Maintenance.** \$3 m McGraw-Hill, Inc., 330 W 42d St., New York 10036
- Electrical World.** \$8 w McGraw-Hill, Inc., 330 W 42d St., New York 10036
- Electro-Technology.** \$15 m Conover-Mast Publications, Inc., 205 E 42d St., New York 10017
- Electrochemical Society Journal.** \$24 m Electrochemical Society, 30 E 42d St., New York 10017
- Electronic Engineering.** £2 15s; U.S. \$3; Canada \$8 m Morgan Brothers, Ltd., 28 Essex St., Strand, London, W.C. 2
- Electronic Industries.** \$10 m Chilton Co., Chestnut & 56th Sts., Philadelphia 19139
- Electronics.** \$6 bi-w McGraw-Hill, Inc., 330 W 42d St., New York 10036
- Engineer.** £5 10s; U.S. \$16 w Morgan Brothers, Ltd., 28 Essex St., Strand, London, W.C. 2
- Engineering.** £1 10s w Engineering Ltd., 36 Bedford St., London, W.C. 2
- Engineering and Instrumentation.** See Journal of Research of the National Bureau of Standards
- Engineering and Mining Journal.** \$4 m McGraw-Hill, Inc., 330 W 42d St., New York 10036
- Engineering Journal.** \$10 m Engineering Institute of Canada, 2050 Mansfield St., Montreal 2, Que.
- Engineering News-Record.** \$10 w McGraw-Hill, Inc., 330 W 42d St., New York 10036
- Food Engineering.** \$2 m Chilton Co., Chestnut & 56th Sts., Philadelphia 19139
- Food Technology.** \$14.50 m Institute of Food Technologists, 221 North LaSalle St., Chicago 60601
- Foundry.** \$10 m Penton Pub. Co., Penton Bldg., Cleveland 44113
- Franklin Institute Journal.** \$20 m Franklin Institute of the State of Pennsylvania, Benjamin Franklin Parkway at 20th St., Philadelphia 19103
- Fundamentals.** See Industrial and Engineering Chemistry
- Gas.** \$3 m Chilton Co., 56th & Chestnut Sts., Philadelphia 19139
- Gas Age.** \$5 m (s-m Ja) Moore Pub. Co., Inc., Ojibway Building, Duluth, Minn. 55802
- Geological Society of America Bulletin.** \$25 m Geological Society of America, 231 E 46th St., New York 10017
- Geophysics.** \$10 bi-m Society of Exploration Geophysicists, 3707 E 51st St., Tulsa, Okla. 74135
- Glass Industry.** \$6 m Glass Pub. Co., Inc., 777 Third Av., New York 10017
- Heating, Piping & Air Conditioning.** \$5 m Reinhold Pub. Corp., Keeney Div., 10 S. LaSalle St., Chicago 60603
- Hydraulics & Pneumatics.** \$8.50 m Industrial Pub. Co., 812 Huron Rd., Cleveland 44115
- Hydrocarbon Processing & Petroleum Refiner.** \$4 m Gulf Pub. Co., P.O. Box 2608, Houston, Tex. 77001
- IEEE Proceedings.** \$22 m Institute of Electrical and Electronics Engineers, Inc., 345 E 47th St., New York 10017
- IEEE Transactions on Applications and Industry.** \$10 bi-m Institute of Electrical and Electronics Engineers, Inc., 345 E 47th St., New York 10017
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- IEEE Transactions on Communication and Electronics.** \$17 bi-m Institute of Electrical and Electronics Engineers, Inc., 345 E 47th St., New York 10017
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- ISA Journal.** \$4 m Instrument Society of America, Penn-Sheraton Hotel, 530 William Penn Pl., Pittsburgh 15219
- Illuminating Engineering, the Journal of the Illuminating Engineering Society.** \$18 m Illuminating Engineering Society, 345 E 47th St., New York 10017
- Industrial and Engineering Chemistry.** m American Chemical Society, 1155 16th St., N.W., Washington, D.C. 20036
Sold only in combination with one or more I&EC quarterlies: Process Design and Development (Ja); Fundamentals (F); Product Research and Development (Mr) One quarterly \$5; two \$8.50; three \$12 Subscriptions must begin with January and end with December
- Industrial Electronics.** £3; U.S. and Canada \$10 m Iliffe Electrical Publications, Ltd., Dorset House, Stamford St., London, S.E. 1
- Industrial Finishing.** \$3 m Practical Publications, Inc., 1142 N. Meridian St., Indianapolis 46204
- Industrial Medicine and Surgery.** \$10 m Industrial Medicine Pub. Co., 1305 St. Clair Av., Sheboygan, Wis. 53081
- Industrial Photography.** \$6 m United Business Publications, Inc., 200 Madison Av., New York 10016
- Industrial Quality Control.** m American Society for Quality Control, Inc., 161 W Wisconsin Av., Milwaukee 53203
- Inland Printer/American Lithographer.** \$5 m Maclean-Hunter Pub. Corp., 300 W Adams St., Chicago 60606
- Institute of Metals Journal.** separate papers Institute of Metals, 17 Belgrave Square, London, S.W.
- Institute of Petroleum Journal.** £6 6s m Institute of Petroleum, 61 New Cavendish St., London, W. 1
- Institution of Electrical Engineers Proceedings.** £12 m The Institution, Savoy Place, London, W.C. 2
- Institution of Mechanical Engineers Proceedings.** separate papers Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W. 1
- Instrument Society of America Journal.** See ISA Journal
- Instruments and Control Systems.** \$4 m Instruments and Control Systems, 845 Ridge Av., Pittsburgh 15212
- Iron Age.** \$25 w Chilton Co., Chestnut & 56th Sts., Philadelphia 19139
- Iron and Steel Engineer.** \$7.50 m Association of Iron and Steel Engineers, 1010 Empire Bldg., Pittsburgh 15222
- Iron and Steel Institute Journal.** £24 m Iron and Steel Institute, 4 Grosvenor Gardens, London, S.W. 1
- Journal of Agricultural and Food Chemistry.** \$20 bi-m American Chemical Society, 1155 16th St., N.W., Washington, D.C. 20036
- Journal of Applied Chemistry.** £18 m Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- Journal of Applied Mechanics.** See ASME Transactions
- Journal of Applied Physics.** \$20 m American Institute of Physics, 335 E 45th St., New York 10017
\$15 to members and associate members of the American Institute of Physics
- Journal of Basic Engineering.** See ASME Transactions
- Journal of Colloid Science.** \$28 9 times a yr Academic Press Inc., 111 5th Av., New York 10003
- Journal of Engineering for Industry.** See ASME Transactions
- Journal of Engineering for Power.** See ASME Transactions
- Journal of Geology.** \$14 bi-m University of Chicago Press, 6750 Ellis Av., Chicago 60637
- Journal of Heat Transfer.** See ASME Transactions
- Journal of Mathematics and Physics.** \$8 q Massachusetts Institute of Technology, Cambridge, Mass. 02139
- Journal of Metals.** \$10 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc., 345 E 47th St., New York 10017
- Journal of Nutrition.** \$22.50 m Wistar Institute of Anatomy and Biology, 36th St at Spruce, Philadelphia 19104

- Journal of Petroleum Technology**, \$8 m Society of Petroleum Engineers of AIME, 6200 North Central Expressway, Dallas 75208
- Journal of Research of the National Bureau of Standards**, Superintendent of Documents, Washington, D.C. 20402
- Published in 4 sections: A, Physics and Chemistry \$5 bi-m; B, Mathematics and Mathematical Physics \$2.25 q; C, Engineering and Instrumentation, \$2.75 q; D, Radio Science \$9 m
- Journal of Scientific Instruments**, £8 m Institute of Physics and the Physical Society, 47 Belgrave Square, London, S.W. 1
- Light Metal Age**, \$6 bi-m Roy Fellow, Jr. 693 Mission St. San Francisco 94105
- Lubrication Engineering**, \$11 m American Society of Lubrication Engineers, 838 Busse Highway, Park Ridge, Ill. 60068
- Machine Design**, \$10 bi-w Penton Pub. Co. Penton Bldg, Cleveland 44113
- Machinery**, \$10 m Industrial Press, Inc. 93 Worth St. New York 10013
- Magazine of Standards**, \$7 m American Standards Association, Inc. 10 E 40th St. New York 10016
- Manufacturing Chemist and Aerosol News**, £6; U.S. \$18 m Grampian Press, Ltd, The Tower, 229-243 Shepherd's Bush Road, London, W.6
- Marine Engineering/Log**, \$6 m (s-m in June) Simmons-Boardman Pub. Corp. 30 Church St. New York 10007
- Materials in Design Engineering**, \$3 m Reinhold Pub. Corp. 430 Park Av. New York 10022
- Extra number published in Mid-October
- Materials Research & Standards**, \$5 m American Society for Testing Materials, 1916 Race St. Philadelphia 19103
- Mathematics and Mathematical Physics**. See Journal of Research of the National Bureau of Standards
- Mechanical Engineering**, \$7 m American Society of Mechanical Engineers, 345 E 47th St. New York 10017
- Metal Finishing**, \$5 m Metals and Plastics Publications, Inc. 99 Kinderkamack Road, Westwood, N.J. 07675
- Metal Progress**, \$9 m American Society for Metals, Metals Park, Ohio. 44073
- Metallurgia, the British Journal of Metals**, 36s m Kennedy Press, Ltd. 31 King St. W. Manchester 3
- Mill & Factory**, \$10 m Conover-Mast Publications, Inc. 205 E 42d St. New York 10017
- Mining Congress Journal**, \$3 m American Mining Congress, Ring Bldg, Washington, D.C. 20036
- Mining Engineering**, \$10 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc. 345 E 47th St. New York 10017
- Modern Materials Handling**, \$3 m Cahners Pub. Co, Inc. 221 Columbus Av. Boston 02116
- Modern Metals**, \$10 m Modern Metals Pub. Co. 435 N. Michigan Av. Chicago 60611
- Modern Photography**, \$5 m Modern Photography 165 W 46th St. New York 10036
- Modern Plastics**, \$10 m McGraw-Hill, Inc. 330 W 42d St. New York 10036
- Extra number, Encyclopedia Issue September
- Modern Textiles Magazine**, \$5 m Rayon Pub. Corp. 303 Fifth Av New York 10016
- Extra number, Fifth Annual Conference of AATT
- Naval Engineers Journal**, \$20 bi-m American Society of Naval Engineers, Inc. 1012 14th St. N.W. Washington, D.C. 20005
- Nucleonics**, \$8 m McGraw-Hill, Inc. 330 W 42d St. New York 10036
- Oil and Gas Journal**, \$7 w Petroleum Pub. Co. 211 South Cheyenne, Tulsa, Okla. 74101
- Operations Research**, \$10 bi-m Operations Research Society of America, Mt Royal and Guilford Aves, Baltimore 21202
- Paper Industry**, \$5 m Paper Industry Management Assn. 2570 Devon Av. Des Plaines, Ill. 60018
- Petroleum Management**, \$7 m (s-m JI) Petroleum Engineer Pub. Co. 800 Davis Bldg, Dallas 75202
- Physics and Chemistry**. See Journal of Research of the National Bureau of Standards
- Ap Sci Ann**/65
- Physics Today**, \$4 m American Institute of Physics, 335 E 45th St. New York 10017
- Pit and Quarry**, \$7 m Pit and Quarry Publications, Inc. 431 S Dearborn St. Chicago 60605
- Plant Engineering**, \$10 m Technical Pub. Co. 308 E James St. Barrington, Ill. 60010
- Plastics Technology**, \$7 m Plastics Technology Magazine, 630 Third Av. New York 10017
- Plastics World**, \$8 m Cahners Pub. Co, Inc. 221 Columbus Av. Boston, Mass. 02116
- Plating**, \$10 m American Electroplaters' Society, Inc. 443-445 Broad St. Newark, N.J. 07102
- Power**, \$3 m McGraw-Hill, Inc. 330 W 42d St. New York 10036
- Power Engineering**, \$10 m Technical Pub. Co. 308 E James St. Barrington, Ill. 60010
- Process Design and Development**. See Industrial and Engineering Chemistry
- Product Engineering**, \$15 bi-w McGraw-Hill Inc. 330 W 42d St. New York 10036
- Product Research and Development**. See Industrial and Engineering Chemistry
- Progressive Architecture**, \$10 m Reinhold Pub. Corp. 430 Park Av. New York 10022
- Public Roads**, \$1 bi-m Superintendent of Documents, Washington, D.C. 20402
- Public Works**, \$7 m Public Works Journal Corp. 200 S Broad St. Ridgewood, N.J. 07450
- QST**, \$6 m American Radio Relay League, Inc. 225 Main St. Newington, Conn. 06111
- RCA Review**, \$2 q Radio Corporation of America, RCA Laboratories Division, Princeton N.J. 08540
- Radio and Electronic Engineer**, £6 10s m Institution of Electronic and Radio Engineers, 8-9 Bedford Square, London, W.C. 1
- Radio Corporation of America Review**. See RCA Review
- Radio-Electronics**, \$5 m Gernsback Publications, Inc. 154 W 14th St. New York 10011
- Radio Science**. See Journal of Research of the National Bureau of Standards
- Research/Development**, m F. D. Thompson Publications, Inc. 205 W Wacker Drive, Chicago 60606
- Review of Scientific Instruments**, \$13 m American Institute of Physics, 335 E 45th St. New York 10017
- \$11 to members of scientific societies
- Roads and Streets**, \$6 m The Reuben H. Donnelly Corp. 466 Lexington Av. New York 10017
- Rock Products**, \$10 m Maclean-Hunter Pub. Corp. 300 W Adams St. Chicago 60606
- Royal Aeronautical Society Journal**, £10 10s m Royal Aeronautical Society, 4 Hamilton Place, London, W. 1
- Rubber Age**, \$5 m Palmerton Pub. Co. Inc. 101 W 31st St. New York 10001
- Rubber Chemistry and Technology**, \$9.50 5 times a yr American Chemical Society, Division of Rubber Chemistry, Prince and Lemon Sts. Lancaster, Pa. 17604
- Rubber World**, \$7 m Bill Brothers Pub. Corp. 630 3d Av. New York 10017
- SAE Journal**, \$12 m Society of Automotive Engineers, Inc. 485 Lexington Av. New York 10017
- SMPTe Journal**, \$16 m Society of Motion Picture and Television Engineers, 9 E 41st St. New York 10017
- Safety Maintenance**, \$4 m Alfred M. Best Co. Inc. Box 600, Morristown, N.J. 07960
- Scientific American**, \$7 m Scientific American, Inc. 415 Madison Av. New York 10017
- Soap and Chemical Specialties**, \$4 m MacNair-Dorland Co, Inc. 254 W 31st St. New York 10001
- Soap Blue Book is extra number
- Society of Automotive Engineers Journal**. See SAE Journal
- Society of Dyers and Colourists Journal**, £8 8s m Society of Dyers and Colourists, Dean House 19 Piccadilly, Bradford 1, Yorkshire, England
- Society of Motion Picture and Television Engineers Journal**. See SMPTe Journal
- Space/Aeronautics**, \$15 m Conover-Mast Publications, Inc. 205 E 42d St. New York 10017
- Extra number, Research and Development Technical Handbook July
- Steel**, \$25 w Penton Pub. Co. Penton Bldg, Cleveland 44113

- Tappl.** single numbers \$1.75 m Technical Association of the Pulp and Paper Industry, 360 Lexington Av, New York 10017
Extra number Yearbook 1964-1965
- Technical Association of the Pulp and Paper Industry.** See Tappl
- Textile Industries.** \$2 m W. R. C. Smith Pub. Co. 1760 Peachtree Rd, N.W. Atlanta 30309
Extra number published in Mid-June
- Textile Research Journal.** \$25 m Textile Research Institute, Inc., Publications Department, P.O. Box 625, Princeton, N.J. 08540
- Textile World.** \$2 m McGraw-Hill, Inc. 330 W 42d St, New York 10036
- Tool and Manufacturing Engineer.** \$6 m American Society of Tool and Manufacturing Engineers, 20501 Ford Road, Dearborn, Mich. 48128
- Traffic Quarterly.** q Eno Foundation for Highway Traffic Control, Inc, Saugatuck, Conn. 06880
Price on request
- Water & Sewage Works.** \$5 m Scranton Pub. Co. Inc. 35 E Wacker Drive, Chicago 60601
Two numbers published in November
- Water Pollution Control Federation Journal.** \$18.50 m Water Pollution Control Federation, 3900 Wisconsin Av, Washington, D.C. 20016
- Water Works and Wastes Engineering.** \$5 m Water Works and Wastes Engineering, 466 Lexington Av, New York 10017
- Welding Engineer.** \$3 m Welding Engineer Publications, Inc. 5826 Dempster St, Morton Grove, Ill. 60053
Extra number published in Mid-June
- Welding Journal.** \$8 m American Welding Society, 345 E 47th St, New York 10017
- Westinghouse Engineer.** \$2.50 bi-m Westinghouse Engineer, P.O. Box 2278, 3 Gateway Center, Pittsburgh 15230
- Wire and Wire Products.** \$3 m Quinn-Brown Pub. Corp. 299 Main St, Stamford, Conn. 06901
- Wireless World.** £2 6s; U.S. \$8; Canada \$8 m Iliffe Electrical Publications, Ltd. Dorset House, Stamford St, London, S.E. 1

Key to General Abbreviations

+	continued on later pages of the issue	Jl	July
abr	abridged	Mr	March
Ag	August	My	May
Ap	April	N	November
bibliog	bibliography	ns	new series
comp	compiled or compiler	no	number
cond	condensed	O	October
cont	continued	p	page
D	December	pl	plate
diag	diagram	por	portrait
ed	edited or edition or editor	pt	part
F	February	rev	revised
il	illustrations	S	September
inc	incorporated	sup	supplement
Ja	January	tr	translated or translation or translator
Je	June	v	volume
		yrbk	yearbook

Sample entry: COTTON finishing
Durable press, S. M. Suchecki, il diags Tex-
tile Ind 129:121-4+ Ja '65

Explanation: An illustrated article with diagrams, on the
subject COTTON finishing entitled "Dur-
able press," by S. M. Suchecki, will be
found in volume 129 of Textile Industries,
page 121-4 (continued on later pages of the
same issue) the January 1965 number

Applied Science & Technology Index

1965

ABS (alkyl benzenesulfonate). See Benzene-sulfonates

ACTH Adrenocorticotropins. J. Ramachandran and others. bibliog *il Am Chem Soc J* 87:2691-708 Je 20 '65

AALTO, Alvar Aalto in New York. *il plan diags Prog Arch* 46:180-5 F '65

ABBE, Ernst Founder of co-operation between research, development and production. *por Metal-lurgia* 71:103 F '65

ABBREVIATIONS Standard for abbreviating titles wins acceptance. J. L. Wood. bibliog *Mag of Stand* 38:14-16 Ja '65

See also
Symbols
ABERNATHY, Bobby F. B. F. Abernathy is 1965 winner of Society's Cedric K. Ferguson medal. *por J Pet Tech* 17:1055 S '65

ABERNATHYITE. See Uranyl compounds

ABERRATION (optics) Optical aberrations; demonstration and measuring. D. Nahshol. *Am J Phys* 33:970-1 N '65

Radial shear interferometer for testing microscope objectives. W. H. Steel. bibliog *diags J Sci Instr* 42:102-4 F '65

Theory of mirror spectrographs; astigmatic illumination of plane gratings and prisms. K. D. Mielenz. bibliog *diags J Res Nat Bur Stand* 68C:195-200 O '64

ABETIC ACID Approach to the synthesis of diterpene alkaloids from abietic acid. A. Tahara and others. *Chem & Ind* p850-1 My 15 '65
Oxygen absorption by gum rosin, modified gum resins, and rosin acids. J. C. Minor and others. *Tappl* 48:541-2 S '65

ABILITY
See also
Creative ability
Intelligence

ABILITY tests Creative engineers, by multiple choice. S. Payne. *Electronics* 38:116-17+ My 31 '65
New test to help pinpoint creative engineers. S. Payne. *Chem Eng* 72:54-5 Ag 2 '65

ABLATION shielding. See Shielding (heat)

ABORTION Therapeutic abortions in New York City; a 20-year review. E. M. Gold and others. bibliog *Am J Pub Health* 55:964-72 Jl '65

ABRASION Abrasion damage to graphite flakes in cast irons. L. E. Samuels and J. V. Craig. bibliog *il Iron & Steel Inst J* 203:75-7 Ja '65

Abrasion resistance of bridge paints for use in Alaska; field and laboratory tests evaluated. B. Chaiken. *il map Pub Roads* 33:201-13 O '65

Abrasion tests show castable refractories excel brick. *diag Oil & Gas J* 63:120-1 Mr 15 '65

Damaged layers in abraded silicon surfaces. E. N. Pugh and L. E. Samuels. bibliog *il diags Electrochem Soc J* 111:1429-31 D '64
Formation and detection of metastable austenite in abraded surfaces of 18 per cent Ni-Co-Mo steel. A. J. Sedriks and J. V. Craig. bibliog *il Iron & Steel Inst J* 203:268-72 Mr '65

Laboratory testing of tread stock-abrasion resistance. S. Davison and others. bibliog *il diags Rubber World* 151:81-92 F '79-83
Mr '65; Same. *Rubber Chem & Tech* 38:457-92 S '65

Nickel-chromium white irons for abrasion service. P. J. Provias. *il Can Min & Met Bul* 58:923-30 S '65

Roll surface deterioration in hot strip mills. R. V. Williams and G. M. Boxall. bibliog *il diags Iron & Steel Inst J* 203:369-77 Ap '65

ABRASIVE belts

Abrasive belt plunge grinds rolls up to 80 in. wide. *il Iron & Steel Eng* 42:217-18 Je '65
Belt grinder multiplies conventional grinding rates. *il Iron & Steel Eng* 42:184 Ap '65

Coated abrasives, closing in on the chipmakers. *il Steel* 157:104-8 Ag 9 '65

Feed pressure boost aids foundry belt grinding. *il Steel* 156:36-7 F 1 '65

Foundries large users of grinding wheels, belts and discs. *Foundry* 93:163 Ap '65

New grinder for big rolls. C. A. Weinert. *il Automotive Ind* 133:77+ Jl 15 '65

Plunge grinding big rolls in minutes. *il Tool & Manuf Eng* 55:46-7 Jl '65

Power assist multiplies abrasive belt performance. *il Foundry* 93:137-40+ F '65

Taking the grind out of roll grinding. M. L. Grant. *il Rubber World* 152:77-9 Ag '65

Wide belts take plunge into roll grinding. *il Iron Age* 195:72 My 20 '65

ABRASIVE wheels. See Grinding wheels

ABRASIVES

Abrasive machining at work. N. M. Gamache. *il Am Mach* 108:83-5 N 9 '64

Abrasive machining costs can be clipped via coolant choice. *il Steel* 156:52-3 My 17 '65

Abrasive machining cuts intricate forms in tough materials. *il Steel* 156:44-5 Ja 18 '65

Abrasive machining in perspective. P. J. Gruber. *il Automation* 12:56-8 Ja '65

Abrasive slurry washes off burrs. H. A. Goodman. *il diag Iron Age* 196:136-7 Ag 12 '65

Abrasives get bigger share of chipmaking business. *il Steel* 156:71-3 Je 21 '65

Bargain price of abrasive machining. C. J. Vlahos. *il Mill & Factory* 76:44-6 Ja '65

Cylindrical abrasive machining. R. A. Dahlin and W. R. Backer. *il Mach* 71:85-8 Ja '65

Evaluation test for scouring agents; fatty soil on a hard surface. J. A. Monick. *il Am Oil Chem Soc J* 42:116-18 F '65

Getting bigger bites from abrasives. E. A. Borch. *il Iron Age* 195:68-70 F 11 '65

Have grinders taken too big of a bite? R. H. Esheleman. *il Iron Age* 194:61 N 26 '64

New steel hones have mold-bonded abrasive. D. W. Daniel. *il Tool & Manuf Eng* 54:56-8 Ja '65

Tests show best grit sizes for finishing and machining. C. Pollock. *il Steel* 156:60-3 Je 14 '65

See also
Abrasive belts
Metal finishing
Polishing materials

ABSENTEEISM (labor)

Invisible men on your payroll. A. Uris. *Chem Eng* 72:138+ Ag 16 '65

Predicting respiratory absenteeism. T. M. Gocke and others. *Archives Environmental Health* 10:332-7; Discussion. 344-5 F '65

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- Air drying plant extensions completed. *Il Engineer* 220:426 S 10 '65
 Preventing MEA degradation. E. M. Berlie and others. *Il Chem Eng Prog* 61:82-5 Ap '65

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- Absorption of carbon monoxide in an aqueous solution of cuprous ammonium lactate in a packed tower. W. J. Thomas and S. B. Watkins. *bibliog J Ap Chem* 15:17-28 Ja '65
 Absorption of electrolytically generated hydrogen. F. Matsuda and T. C. Franklin. *bibliog diag Electrochem Soc J* 112:767-71 Ag '65
 Absorption of ethylene by aqueous chlorine solution. T. Akehata and A. I. Johnson. *bibliog diag Can J Chem Eng* 43:262-6 O '65
 Absorption of resonance radiation and formation of molecular ions in cesium vapor. D. H. Pollock and A. O. Jensen. *bibliog diag J Ap Phys* 36:3184-92 O '65
 Absorption of water vapour by epoxy resin cement. R. F. S. Tyson. *J Sci Instr* 42:501 J1 '65
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 Absorption tube for removal of interfering sulfur dioxide in analysis of atmospheric oxidant. B. E. Saltzman and A. F. Wartburg, Jr. *diag Anal Chem* 37:779-82 My '65
 Apparatus for recording kinetics of absorption or evolution of small volumes of gases at constant pressure by liquid systems. L. R. Mahoney and others. *bibliog diags Anal Chem* 36:2516-18 D '64
 Atomic absorption speeds precision trace-metal analysis. H. L. Kahn. *il diags Food Eng* 37:105-6+ My '65
 Care and operation of the gas-processing-plant absorption-oil system; panel discussion. Oil & Gas J 63:99-100+ J1 19 '65
 Converting viscous liquids to dry liquid concentrates. G. Coombs. *flow diag il Rubber Age* 97:72-5 Je '65
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 Gas absorption in a fin-wall conduit. T. L. Sweeney and S. Calvert. *bibliog il diag AIChE J* 11:785-9 S '65
 High pressure optical absorption cell for reactive liquids. A. H. Ewald and E. S. Merritt. *diags R Sci Instr* 36:864-5 Je '65
 Hygroscopicity. H. v. Czetsch Lindenwald and R. Tawashi. *bibliog Am Perfumer* 80:31-5 S '65
 Infrared refractive index and absorption of InAs and CdTe. O. G. Lorimor and W. G. Spitzer. *bibliog J Ap Phys* 36:1841-4 Je '65
 Ink absorbency of blotting paper; proposed revision of official standard T 431 m-45. *Tappl* 47:sup 142A N '64
 Instrument makers court atomic absorption. *il Chem & Eng N* 43:48-9 Ja 25 '65
 Low-energy sputtering yields by resonance absorption and emission spectroscopic methods. W. C. Kreye. *bibliog diag J Ap Phys* 35:3575-82 D '64
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 Optical absorption of CdS-CdSe mixed crystals prepared by solid-state diffusion. E. T. Handelman and W. Kaiser. *bibliog J Ap Phys* 35:3519-22 D '64
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Vapor-phase dyeing of cellulose acetate; rates of absorption and apparent diffusion coefficients. F. Jones and R. Seddon. *bibliog Textile Res J* 35:334-41 Ap '65

See also

Silica gel

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- Absorption of and reaction to inhaled particles. L. Friberg. *bibliog diags Archives Environmental Health* 10:168-74; Discussion. 186-8 F '65
 Absorption of beryllium from the gastrointestinal tract. A. L. Reeves. *bibliog diag Archives Environmental Health* 11:209-14 Ag '65
 Absorption of calcium and phosphorus along the gastrointestinal tract of the laying fowl as influenced by dietary calcium and egg shell formation. S. Hurwitz and A. Bar. *bibliog J Nutrition* 86:433-8 Ag '65
 Absorption of Cu⁶⁴, Zn⁶⁵, Mo⁹⁹, and Fe⁵⁹ from ligated segments of the rat gastrointestinal tract. D. R. Van Campen and E. A. Mitchell. *bibliog J Nutrition* 86:120-4 Je '65
 Absorption of dietary fats by the rat in cholestyramine-induced steatorrhea. R. W. Harkins and others. *bibliog J Nutrition* 87:85-92 S '65
 Absorption of vitamin B₁₂ from the large intestine of rats. D. Merzbach and N. Grossowicz. *bibliog il diag J Nutrition* 87:41-51 S '65
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 Some factors related to the formulation of preparations for percutaneous absorption. D. E. Wurster. *bibliog diag Am Perfumer* 80:21-9 Ja '65
 Uptake and distribution of stearic acid by subcellular components of intestinal mucosa. D. C. Shelton and others. *bibliog Am J Clinical Nutrition* 15:352-7 D '64
 Utilization of Co⁵⁷-labeled vitamin B₁₂ by biotin-deficient rats. P. Puddu and M. Marchetti. *J Nutrition* 84:255-8 N '64
 Warfarin intoxication from percutaneous absorption. B. Fristedt and N. Sterner. *bibliog Archives Environmental Health* 11:205-3 Ag '65
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 Absorber system dries dry air for plant use. J. F. Thomas. *il diags Plant Eng* 19:140-1 S '65
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 Absorption of radiation from a corona discharge in oxygen. G. R. Govinda Raju and others. *bibliog diag Inst E E Proc* 111:2097-9 D '64
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Systematic errors in spectroscopy due to atmospheric absorption. A. R. Goodwin and F. A. Johnson. J Sci Instr 42:418-20 Je '65

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See also
Black body
Spectrophotometry

ABSORPTION spectra. See Spectrum—Absorption spectra

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ACADEMIC degrees. See Degrees, Academic

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Air purification

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Cooling

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Dehumidification

Electricity in air conditioning

Exhaust systems

Gas in air conditioning

Ventilation

also subdivision Air conditioning under special subjects, e.g.

Airplanes

Airport buildings

Apartment houses

Bank buildings

Biological laboratories

College buildings

Cotton mills

Factories

Hospitals

Hotels

Insurance company buildings

Laboratories

Office buildings

Office buildings, Government

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Printing offices

School buildings

Ships

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Theaters

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Brass

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Magnesium alloys

Manganese alloys

Molybdenum alloys

Monel metal

Nickel alloys

Niobium alloys

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- Metal selector; aluminum casting alloys. *Steel* 157:59 S9-11 O 11 '65
- New casting alloy boosts prospects of all-aluminum engine. *il Mod Metals* 21:62+ Ag '65

ALUMINUM founding—Continued

- Precise production procedures for porcelain enameled castings. *il Mod Metals* 21:58+ S '65
- Pressure die-cast V-8 cylinder block. *il Metallurgia* 70:219 N '64
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- What happens when a diecasting die erodes? H. K. Barton. *diags Foundry* 93:132-6 S '65

ALUMINUM freight cars. See Freight cars, Aluminum**ALUMINUM hydride**

- Chemistry of alane; dimethylaminodialane, $(CH_3)_2NAl_2H_5$. A. R. Young, 2d and R. Ehrlich. *Am Chem Soc J* 86:5359-60 D 5 '64
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ALUMINUM hydroxide

- Zeta potential of aluminum hydroxide in relation to water treatment coagulation. E. S. Hall. *bibliog J Ap Chem* 15:197-205 My '65

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- Aluminum building market; is there some cause for worry? abstract. M. Ketchum, Jr. *Light Metal Age* 23:26 Je '65
- Aluminum industry. W. L. Rice. *il Min Cong J* 51:107-9 F '65
- Aluminum. 1964. L. Lipkowitz. *Eng & Min J* 166:96-9 F '65
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- Extruders comment on prices, profits, problems. *Mod Metals* 21:76-82 Je '65
- Extrusion game; an appraisal of 20 years of growth, markets and pricing; suggested cures for its ills. W. B. Griffin. *il map Mod Metals* 21:36-7+ My '65
- Extrusion industry appraisal; predict 22 per cent increase in sales; plan fabricating, finishing expansion. *Mod Metals* 21:64+ My '65
- Extrusion users diagnose industry service, pricing. *Mod Metals* 21:74+ My '65
- Industrywide strike avoided in aluminum. *il Chem & Eng N* 43:26-7 Je '65
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- Aluminum melting-casting markets. *Mod Metals* 21:30-1 Ag '65
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- Swiss aluminum expert sees worldwide balance of supply and demand. J. Wohnlich. *Mod Metals* 21:50-1 Je '65

Australia

- Australia begins export of aluminum; expands rolling and extrusion. *Light Metal Age* 23:7 Ag '65
- Growth seen for bauxite, alumina, and metal. *il map J Metals* 16:984-9 D '64
- Large scale expansion underway in Australian aluminum industry. *il map Light Metal Age* 23:16-17 Ap '65

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- Aluminum tube and extrusion production at Redditch. *il Metallurgia* 70:264-6 D '64
- British non-ferrous metals research association research for the aluminum industry. E. C. Mantle. *il Metallurgia* 71:67-71 F '65

Italy

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- New aluminum facilities spur Italian output. *il diags J Metals* 17:952-8 S '65

Norway

- Aluminum production in Norway; world's second biggest exporter. *Metallurgia* 71:71-2 F '65
- Norway increasing aluminum production. *Light Metal Age* 23:20 Ap '65

ALUMINUM ingots

- Freeze purification makes 99.99 per cent purity aluminum. *Chem & Eng N* 43:42 Mr '65
- Impurities get frozen out of aluminum. *diag Iron Age* 195:71 F 25 '65

ALUMINUM metallurgy**Electrometallurgy**

- Freeze-purification process upgrades aluminum purity. J. L. Dewey. *il diag J Metals* 17:940-3 S '65
- Impurities and nonmetallic inclusions in aluminum reduction and refining. M. Ishihara and K. Mukai. *diags J Metals* 17:944-7 S '65
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- Magnetic fields in high-amperage aluminum reduction cells. W. E. Capitaine and W. H. Schmidt-Hatting. *il diags J Metals* 17: 271-5 Mr '65

ALUMINUM nitride

- Axial imperfections in filamentary crystals of aluminum nitride. C. M. Drum. *bibliog il diags J Ap Phys* 36:816-29 Mr '65
- Determination of aluminum nitride in steel by spectrophotometric analysis for aluminum. G. A. Bauer. *Anal Chem* 37:300-1 F '65

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See also

Bauxite

ALUMINUM oxides

See also

Alumina

ALUMINUM pipes. See Pipes, Aluminum**ALUMINUM plates**

- Design features of an 84-inch aluminum cold mill drive and control system. J. I. Beggs. *il IEEE Trans Ind & Gen Applications* 1: 193-9 My '65
- Electrical design of an 84-inch aluminum cold rolling mill installation. Y. Kato and others. *il plan diags IEEE Trans Ind & Gen Applications* 1:232-40 My '65
- Gas tungsten-arc welding heavy aluminum plate. J. A. Liptak. *il diags Welding J* 44: sup276-81 Je '65
- Huge plate stretcher solves aluminum mill's excess capacity. *il Steel* 157:50-1 O 25 '65
- Nine-million-lb stretcher flattens large plate. *il Mod Metals* 21:78+ S '65
- Operation experience of the electric drives and control systems of an 84-inch cold rolling mill; Aluminum co. of Canada. J. H. Noel and others. *il IEEE Trans Ind & Gen Applications* 1:173-82 My '65

ALUMINUM plating

- Aluminum electroforms have bright surface. *Steel* 157:72+ S 20 '65

ALUMINUM ships. See Ships, Aluminum**ALUMINUM silicates**

See also

Andalusite
Bentonite
Corderite
Kyanite
Mullite
Petalite
Pyrophyllite
Sillimanite

ALUMINUM sulfate

- Coagulation symposium; process control in plants using aluminum sulfate. R. W. Ockershausen. *bibliog Water Works & Wastes Eng* 2:53-5 Ja '65
- Electrophoretic studies of coagulation and flocculation of river sediment suspensions with aluminum sulfate. A. P. Black and C. L. Chen. *bibliog Am Water Works Assn J* 57:354-62 Mr '65
- Microelectrophoretic studies of coagulation with aluminum sulfate. R. L. Williams. *Am Water Works Assn J* 57:801-10 Je '65
- Some properties of alunogen from New South Wales. P. Bayliss. *bibliog Am Mineralogist* 49:1763-6 N '64

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- Scrap recovery cuts purchases of prime metal. *il Mod Metals* 21:84 Ag '65

ALUMINUM window frames. See Window frames. Aluminum

ALUMINUM work

Aluminum extrusion at new Widnes plant; RTZ Metals enters the field. *Il plan Metallurgia* 71:27-30 Ja '65

Aluminum extrusions; reference book sheet. *diags Am Mach* 109:99-100 F 16 '65

Aluminum extrusions used as flooring in military vehicle. *Il Materials in Design Eng* 61:23+ Je '65

Aluminum fabrication vs. environmental humidity. H. Brown. *Il Light Metal Age* 23:4-5 Ag '65

Aluminum in Project Haystack. *Il Illum Eng* 22:26 O '64

Coolant additive slows aluminum oxidation, extends screw-machine tool life. *Il Mach* 71:137 Ag '65

Cryogenic quenching becomes production process. E. Dullberg and C. H. Vanderhoof. *Il Tool & Manuf Eng* 54:43-4 Je '65

Designers' views on aluminum. *Mod Metals* 21:38+ J1 '65

Dip brazing insures high-quality waveguides. J. Miller. *Il Mach* 71:126-3 F '65

Electroformed aluminum parts feasible. *Il Materials in Design Eng* 62:6-7 O '65

Enterprising extruder-fabricator campaigns for job shop business. *Il diag Mod Metals* 21:26+ My '65

Epoxy bonding aluminum extrusions. *Light Metal Age* 23:22 Ap '65

Extruders cut die cost with new remelted steel. *Il Mod Metals* 21:56-7 My '65

Fabrication problems with aluminum. H. Zoeller. *Il Light Metal Age* 23:12 Ag '65

Fastening tips for coated coil users. A. Bancroft. *Il Mod Metals* 21:30+ Je '65

Forged aluminum wheels for commuter trains. *Il Mach* 71:151 D '64

Hard anodizing opens new markets for aluminum. *Il Mod Metals* 21:66+ Je '65

How to dip-braze aluminum assemblies. P. B. Dickerson. *Il Metal Prog* 87:73-8 Je '65

How to fabricate aluminum sheet for building applications. *diags Mod Metals* 21:38+ Ap; 42+ S '65

Influence of deep-drawing conditions on the earing of aluminum sheet. J. C. Wright. *diag Inst Metals J* 93:289-97 '64-65

NASA cold extrudes panels with integral ribs. *Il Steel* 157:78-9 S 27 '65

New aluminum extrusion press. *Il Metallurgia* 72:27 J1 '65

New and old homes sport metallic siding. *Il Steel* 157:114-15+ Ag 9 '65

New extrusion tolerances meet favorable reception. *Light Metal Age* 23:22 Ap '65

On site roll forming. *Il Light Metal Age* 22:9 D '64

Photo chemical milling of aluminum. *Il Light Metal Age* 23:4-5 F '65

Plastic and aluminum extrusions make a better refrigerator display cabinet. *Il Materials in Design Eng* 61:21+ My '65

Ratings simplify aluminum choice. F. F. Stretmeyer. *Il Iron Age* 195:60-3 Ja 14 '65

Redesign for adhesive bonding simplifies extrusion tooling, cuts weight, improves performance of pontoons for planes. *Il Mod Metals* 21:48-9 J1 '65

Screw machining of aluminum alloys. F. F. Stretmeyer. *Il Mach* 71:128-30 Ap '65

Standard glazing bars play key role in award-winning building; Reynolds memorial award for 1965. *Il Mod Metals* 21:44-5 J1 '65

Student designers create new products in aluminum. F. L. Church. *Il diags Mod Metals* 21:52+ J1 '65

Tandem aluminum mill rolls to precise gauge. *Westinghouse Eng* 25:159 S '65

Working with aluminum? Here's what you can do with dip brazing. P. B. Dickerson. *Il Metal Prog* 87:80-5 My '65

See also

Aluminum—Finishing

Aluminum—Welding

Aluminum founding

ALUMINUM works

Aluminum extrusion factory; Midland extrusions Ltd. *Il Engineer* 218:765 N 6 '64

Equipment

Aluminum extrusion and tube works, Redditch. *Il Engineer* 218:834-5 N 20 '64

British aluminum face up to competition. *Il Engineering* 198:662-3 N 20 '64

Continuous cold mill for aluminum. *Il Westinghouse Eng* 25:126-7 J1 '65

Factory for aluminum extrusions. *Il Engineer* 219:176-6 Ja 22 '65

Huge plate stretcher solves aluminum mill's excess capacity. *Il Steel* 157:50-1 O 25 '65

More aluminum for vehicles and building; Midland extrusions limited. *Il plan Engineering* 198:570 O 30 '64

New aluminum facilities spur Italian output. *Il diags J Metals* 17:952-8 S '65

New extrusion press at High Duty Alloys Distinction works. *Il Metallurgia* 72:180-2 O '65

Reorganisation of aluminum mill at Resolven. *Il Engineer* 218:721-3 O 30 '64

Short run aluminum extrusion plant opens. *Il Engineering* 199:156 Ja 29 '65

Power

Parallel operation of transistor-controlled silicon-rectifier equipment with water-wheel-driven d.c. generators supplying an aluminum potline. N. W. Norani and others. *bibliog diags Inst E E Proc* 112: 965-76 My '65

ALUMS

Preparation and properties of ultrafine high-purity alumina. J. L. Henry and H. J. Kelly. *bibliog Am Cer Soc J* 48:217-18 Ap '65

See also

Aluminum sulfate

ALUMS, Liquid

Use of liquid alum in water plants. R. W. Ockershausen. *Il Am Water Works Assn J* 57:309-13 Mr '65

ALUNOGEN. See Aluminum sulfate

AMALGAMS

Determination of europium-155 in fission products using reduction by lithium amalgam. J. Bubernak and others. *diag Anal Chem* 37:1574-6 N '65

Indous ion; an intermediate in the electrochemical oxidation of indium metal. R. E. Visco. *bibliog Il Electrochem Soc J* 112: 932-7 S '65

Potentiometric determination of sodium in amalgams. J. A. LeDuc and others. *diag Electrochem Soc J* 112:870-1 Ag '65

AMARYLLIDACEAE

Structure of amaryllisine. A. L. Burlingame and others. *bibliog Am Chem Soc J* 86:4976-9 N 20 '64

AMATEUR moving pictures. See Moving pictures. Amateur

AMATEUR radio operators. See Radio operators. Amateur

AMAZON RIVER

Photogeologic interpretation of structure in the Amazon basin; a test study. A. D. Howard. *bibliog map Geol Soc Bul* 76:395-405, pl 1-3 Ap '65

AMBULANCES, Marine

Sea-going ambulances now use radar. *Il Safety Maint* 129:50 Je '65

AMERICAN association for contamination control

Annual technical meeting and exhibit, 4th. Miami Beach. Heating-Piping 37:128 Ag '65

AMERICAN association for textile technology

AATT; its yesterdays and tomorrows; presidential address. C. E. Coke. *Mod Textiles Mag* 46:51-3 F '65

Annual conference, 5th. New York, Feb. 3; proceedings. *Mod Textiles Mag* 46:Special ed p4-52 '65

New York chapter meeting, New York, March 3; papers presented. *Mod Textiles Mag* 46: 68-74 Ap '65

AMERICAN association of cost engineers

Annual meeting, 9th. Los Angeles; abstracts of papers. Heating-Piping 37:136 O '65

AMERICAN association of petroleum geologists

Annual meeting, 50th. New Orleans, April 26-29; with program and abstracts of papers. *Am Assn Pet Geologists Bul* 49:327-65, 1036-68 Mr, J1 '65

Gulf Coast association of geological societies

15th annual convention and regional meeting of American association of petroleum geologists. Houston, Tex. Oct. 27-30; program and abstracts of papers. *Am Assn Pet Geologists Bul* 49:1746-56 O '65

Membership directory. *Am Assn Pet Geologists Bul* 49:1-271 pt 2 Mr '65

Mid-continent section biennial meeting, Tulsa, Okla. Oct. 13-15; abstracts of papers. *Am Assn Pet Geologists Bul* 49: 1560-4 S '65

Pacific section annual meeting, Bakersfield, Calif. April 1-2; with abstracts of papers. *Am Assn Pet Geologists Bul* 49:1077-92 J1 '65

Pacific section meeting, Los Angeles, April 9-10; abstracts of papers. *Am Assn Pet Geologists Bul* 49:1756-68 O '65

Rocky Mountain section 15th annual meeting, Billings, Mont. Sept. 26-29; with abstracts of papers. *Am Assn Pet Geologists Bul* 49:1565-77 S '65

AMERICAN association of physics teachers

Annual meeting, 34th, New York, Jan. 27-30; with abstracts of papers. Am J Phys 33: 870-8 O '65
 Joint APS-AAPT meeting, New York, Jan. 27-30. Phys Today 18:38-43 Mr '65
 1965 citations for distinguished service. V. E. Parker. Am J Phys 33:466-7 Je '65
 Proceedings. Am J Phys 33:670-5, 764-8 Ag-S '65

Summer meeting, Madison, Wis. June 18-20; proceedings. Am J Phys 33:65-70 Ja '65

AMERICAN association of state highway officials

After 1972 study outlined. Roads & Sts 107: 51 N '64
 Annual meeting, Atlanta, Roads & Sts 108: 43 F '65
 Annual meeting, 50th, Atlanta, Dec. 6-11. Eng N 173:50-1 D 17 '64; Roads & Sts 108: 47 Ja '65
 Annual meeting, 51st, New York. Eng N 175: 57-9 O 14 '65
 Georgia's Shadburn will lead AASHO. Eng N 173:125-6 D 17 '64

AMERICAN association of textile chemists and colorists

Council and administrative committees for 1965. Am Dyestuff Rep 54:206-8 Mr 15 '65
 Council meeting, 237th, New York, Sept. 23. Am Dyestuff Rep 53:1129 D 21 '64
 Council meeting, 238th, New York, Nov. 20. Am Dyestuff Rep 54:204-5 Mr 15 '64
 Meeting, New York, Sept. 23-25; abstracts of papers. Textile Ind 128:132+ N '64
 Meeting, 239th, New York, Jan. 22; council highlights. Am Dyestuff Rep 54:377-8 My 10 '65
 National convention, Chicago, Oct. 13-15; with program, abstracts of papers and list of exhibitors. Am Dyestuff Rep 54: 793-329 S 27 '65
 National council meeting, 240th, Research Triangle Park, N.C., April 22. Am Dyestuff Rep 54:627-31 J1 5 '65
 President's message. E. R. Kaswell. Am Dyestuff Rep 53:1115-16 D 21 '64

Committee on research

Committees appointed by and working under the technical committee on research. Am Dyestuff Rep 54:699-701 Ag 30 '65
 Minutes of 215th meeting. Am Dyestuff Rep 54:88-95 F 1 '65
 Minutes of 216th meeting. Am Dyestuff Rep 54:321-7 Ap 26 '65
 Minutes of 217th meeting. Am Dyestuff Rep 54:693-8 Ag 30 '65

AMERICAN can company

Reports new highs in 1964. Food Tech 19: 1358-9 S '65

AMERICAN ceramic society

Annual meeting, 67th, Philadelphia, May 1-6; preview. Cer Ind 84:68-9+, 74-5 Ap '65
 Annual meeting, 67th, Philadelphia, May 1-6; with program. Am Cer Soc Bul 44:283-95 Ap '65
 Membership roster. Am Cer Soc Bul 44:761-99+ O '65

Basic science division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:297-319 Ap '65
 Fall meeting, Pittsburgh, Sept. 19-21; program and abstracts of papers. Am Cer Soc Bul 44:633-5+ Ag '65

Ceramic-metal systems division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:321-5 Ap '65
 Fall meeting, French Lick, Ind. Sept. 12-15; program and abstracts of papers. Am Cer Soc Bul 44:625-9+ Ag '65

Design division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:327-31 Ap '65

Electronics division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:333-9 Ap '65
 Pacific Coast meeting, Los Angeles, Oct. 27-29; program and abstracts of papers. Am Cer Soc Bul 44:721-4+ S '65

Glass division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:841-51 Ap '65

Annual meeting, 67th, Philadelphia, May 3-5; abstracts of papers. Glass Ind 46:398-9+, 459-70+ J1-Ag '65
 Fall meeting, Bedford, Pa., Oct. 14-16; with abstracts of papers. Glass Ind 45:661-3+ D '64

Fall meeting, Bedford, Pa. Oct. 13-16; program and abstracts of papers. Am Cer Soc Bul 44:713-16 S '65

Materials and equipment division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:353-7 Ap '65
 Fall meeting, Bedford, Pa. Sept. 29-Oct. 2; program and abstracts of papers. Am Cer Soc Bul 44:699-702 S '65

Refractories division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:359-69 Ap '65
 Fall meeting, Bedford, Pa. Oct. 7-9; program and abstracts of papers. Am Cer Soc Bul 44:09-11 S '65

Structural clay products division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:371-7 Ap '65
 Fall meeting, Greensboro, N.C., Sept. 22-25; program and abstracts of papers. Am Cer Soc Bul 44:641-3 Ag '65

Whiteware division

Annual meeting, Philadelphia, May 3-5; program and abstracts of papers. Am Cer Soc Bul 44:379-85 Ap '65
 Fall meeting, Bedford, Pa. Sept. 29-Oct. 2; program and abstracts of papers. Am Cer Soc Bul 44:699-702 S '65

AMERICAN chemical society

Advisory board members appointed to six society publications. Chem & Eng N 42: 44-5 D 28 '64
 ACS divisions elect 1965 officers. Chem & Eng N 42:74+ D 14 '64
 ACS-government projects increasing; Society administers more than \$4 million in grants for a variety of research and educational programs. Chem & Eng N 43:116+ O 11 '65
 Annual report, 1964. Chem & Eng N 43:55-78 Mr 15 '65
 Board of directors minutes, 149th national meeting and highlights of official reports. Chem & Eng N 43:52-8+ My 31 '65
 Financial statement for 1964. Chem & Eng N 43:68-9 Je 7 '65
 Highlights of the 1964 presidential year. M. H. Arveson. Chem & Eng N 42:43 D 28 '64
 Local sections to honor 50-year members; certificates will be presented to 102 who celebrate golden anniversaries. Chem & Eng N 43:60-2 Ap 5 '64
 National meeting, 149th, Detroit, April 4-9; with program. Chem & Eng N 43:64-74+ F 22 '65
 National meeting, 150th, Atlantic City, Sept. 12-15; program. Chem & Eng N 43:62-128 Ag '65
 New booklet explains ACS tax status; spells out do's and don'ts for local sections. Chem & Eng N 42:72+ N 23 '64
 Officers, directors, councilors, and committees. Chem & Eng N 43:64-70 F 15 '65
 Officers of local sections and divisions and chapters of student affiliates. Chem & Eng N 43:60-4+ Mr 22 '65
 Progress report 38 of the Committee on professional training. Chem & Eng N 43:58-63 Mr 1 '65
 Publications structure revamped; puts all publishing operations except Chemical abstracts service under one administrative head. Chem & Eng N 42:53-4+ D 21 '64
 Regional conference, Pacific Grove, Calif. Jan. 22-24. Chem & Eng N 43:54-5 F 22 '65
 Reports from the Board of directors meeting, Dec. 5, 1964; and reports of committees. Chem & Eng N 43:70-83 Ja 25 '65
 Reports from the Board of directors meeting, June 5, and reports of committees. Chem & Eng N 43:50-8 Ag 2 '65
 Sparks is ACS president-elect for 1965. Chem & Eng N 42:84+ D 7 '64
 Stanerson to succeed Emery; Board appoints Emery honorary secretary as of July 1, to serve as consultant until 1966 retirement. Chem & Eng N 43:26 Ap 26 '65
 Winter meeting, Phoenix, Ariz. Jan. 16-21; with program and map. Chem & Eng N 43: 78-85 N 1 '65

AMERICAN chemical society—Continued

Chemical abstracts service

- CAS and dollars; service to members. C. L. Thomas, Chem & Eng N 43:66-9 Ja 25 '65
 CAS broadens scope of CBAC; subject coverage expanded, format improved. Chem & Eng N 43:64 Je 7 '65
 CAS dedicates new quarters in Columbus. Il Chem & Eng N 43:22-3 Je 14 '65
 CAS launches CBAC: chemical-biological activities digests research results on biological activities of chemical compounds. Il Chem & Eng N 42:64+ N 16 '64
 CAS offers four new services. Chem & Ind 43:66 Mr 29 '65
 CAS to study registry of chemical compounds. Chem & Eng N 43:23-4 Je 7 '65
 CBAC to cover plant kingdom in 1966; interactions of organic compounds and plants will be included; computer tape, search services offered. flow diag Chem & Eng N 43:62+ O '65
 From original journal to abstract: 90 days. Il Chem & Eng N 43:76-8 Je 14 '65

Division of rubber chemistry

- Bylaws. Rubber Chem & Tech 37:sup xxi-xxx O '64
 Fall meeting. Philadelphia, Oct. 20-22; program and abstracts of papers. Rubber Age 97:70-7 Ag '65; Rubber World 152:51-6+ S '65
 Meeting. 86th. Chicago, Sept. 2-4. Rubber Age 96:110-11+ O '64
 Meeting. 87th. Miami Beach, May 4-7. Rubber Age 97:108-12 My '65
 Spring meeting. Miami Beach, May 4-7; program and abstracts of papers. Rubber Age 96:879-92 Mr '65; Rubber World 151:101-8+ Mr '65

AMERICAN commission on stratigraphic nomenclature

- Records of the Stratigraphic commission for 1963-1964. Am Assn Pet Geologists Bul 49: 296-300 Mr '65

AMERICAN concrete institute

- ACI awards; ten honored at 61st convention. Am Concrete Inst J 62:sup 10-11+ Ap '65
 Annual meeting, 61st, San Francisco, March 1-4. Pit & Quarry 57:146D Ap '65
 Annual report, 1964. Am Concrete Inst J 62: sup 1-3+ Ap '65
 Concrete from A to Z. B. Mather. Am Concrete Inst J 62:513-20 My '65
 Convention, San Francisco, March 1-4; and Hawaii, March 8-9; with program, abstracts of papers and list of exhibitors. Am Concrete Inst J 62:sup36-7+ Ja; sup7-8+ My '65
 Fall meeting, 17th. Miami, Nov. 11-13; five ACI technical committee reports. Am Concrete Inst J 62:sup5-6+ F '65
 Fall meeting, 17th. Miami, Nov. 11-13; program. Am Concrete Inst J 61:sup3-8, 11-12+ N '64; 62:sup5-7, 9-10+ Ja '65
 Fall meeting, 18th. Cleveland, Nov. 2-5; program. Am Concrete Inst J 62:sup3-7+ O '65
 Four ACI technical committee progress reports. Am Concrete Inst J 62:sup3-4+ Je '65

AMERICAN die casting institute

- Annual meeting. Chicago, Sept. 22-23; abstracts of papers. Foundry 93:139-40+ N '65

AMERICAN electroplaters society

- Annual convention, 52d. New York, July 11-15; with program, abstracts of papers and floor plan. Plating 52:550-63, 778-86 Je, Ag '65
 Annual convention, 52d. New York, July 11-15; with program and abstracts of papers. Metal Finishing 63:77-84H Je '65
 Annual report 1964-65. Plating 52:565-76 Je '65
 Financial report for the fiscal year, July 1, 1964-June 30, 1965. Plating 52:1056-9 O '65
 Keynote address. AES 52d annual convention. L. R. Cook. Plating 52:802-3 S '65
 Quarterly report of AES vice chairman for research (cont) D. F. Turner. Plating 52: 74-5, 327-8, 685-6, 900-1 Ja. Ap. Jl, S '65

AMERICAN foundrymen's society

- Castings congress, 69th. Chicago, May 10-14; with program and abstracts of papers. Foundry 93:126-36 My; 56-61 Je; 157-8+ Jl '65

AMERICAN gas association

- Annual convention, Atlantic City, Oct. 11-15. Gas Age 131:38-9 N '64
 Annual convention, 46th. Atlantic City, Oct. 11-14; with papers presented and list of officers and directors elected. Am Gas Assn Mo 46:2-16+ N '64
 Annual convention, Miami, Oct. 10-13. Gas Age 132:38-9 O '65

- Annual convention, Miami Beach, Oct. 10-13; preview. Am Gas Assn Mo 47:2-5 Jl-Ag '65
 Bylaws; as amended Sept. 16, 1964. Am Gas Assn Mo 46:sup 1-6 N '64
 Chairman's council. Am Gas Assn Mo 47: 29-31 S '65
 Goal; better communication. J. S. Setchell and M. J. Milden. Am Gas Assn Mo 47:27-8 Mr '65
 Industrial and commercial gas sales conference, Boston, April 20-21. Am Gas Assn Mo 47:29-30 Je '65
 Operating section distribution, transmission, and production conferences. Am Gas Assn Mo 47:35-9 Jl-Ag '65
 Operating section goals outlined. Am Gas Assn Mo 47:31-2 O '65
 Operating section spring conference, Minneapolis, May 3-7; program. Gas Age 132: 44-5 My '65
 Research and utilization conference, 20th. Cleveland. Am Gas Assn Mo 47:21-2+ Jl-Ag '65

AMERICAN gear manufacturers association

- This is AGMA. S. M. Brooks. Naval Eng J 77:739-40 O '65

AMERICAN home products corporation

- Annual review. Food Tech 19:1365-7 S '65

AMERICAN institute of aeronautics and astronautics

- AIAA second-year review. Astronautics & Aeronautics 3:72-4+ Mr '65
 Annual meeting and technical demonstration, 2d, San Francisco, July 26-29; preview, floor plan and list of exhibitors. Astronautics & Aeronautics 3:32-7 Jl '65
 Annual meeting, 2d, San Francisco, July 26-29. Astronautics & Aeronautics 3:34-91 O '65
 Technical committee membership changes announced. Astronautics & Aeronautics 3: 64-7 My '65
 Your profession, your society; publications, sections, finance, technical activities. map Astronautics & Aeronautics 3:42-70 Jl '65

AMERICAN institute of architects

- Annual convention, 97th, Washington, June 14-18. Prog Arch 46:49+ Ag '65
 Architects' architects selected. Eng N 173:16 D 24 '64
 Convention and Pan American congress, Washington, June 14-18. Arch Rec 138:35-6+ Jl '65

AMERICAN institute of chemical engineers

- Annual meeting, 58th, Philadelphia, Dec. 5-9; with program. Chem Eng Prog 61:106-13 O '65
 Joint meeting, London, June 13-17; abstracts of papers. Chem & Ind p 1277-83 Jl 17 '65
 Joint meeting with Institution of chemical engineers, London, June 13-17; with program. Chem Eng Prog 61:113-15+ Ap '65
 National conference, 55th, and petrochemical and refining exposition, Houston; with abstracts of papers. Oil & Gas J 63:86-104 F 15 '65
 National meeting, 55th, Houston, Feb. 7-11; with program. Chem Eng Prog 60:104-13 D '64; 61:104-6 Ja '65
 National meeting, 56th, San Francisco, May 16-19; with program. Chem Eng Prog 61:118-24 Mr '65
 National meeting, 57th, Minneapolis, Sept. 26-29; program. Chem Eng Prog 61:112+ Jl '65
 Public relations contest reveals outstanding local sections activities in many fields. Chem Eng Prog 61:114-19 O '65
 Stronger than armies; presidential address. D. A. Dahlstrom. Chem Eng Prog 61:26-9 F '65

AMERICAN institute of mining, metallurgical and petroleum engineers

- AIME officers for 1966. Min Eng 17:336-42 Jl '65
 Annual meeting, 94th, Chicago, Feb. 14-18; program. J Pet Tech 17:64-5 Ja '65
 Annual meeting, 94th, Chicago, Feb. 14-18; with abstracts of papers. Pit & Quarry 57: 100-1+ Je '65
 Annual report 1964. J Metals 17:sup 1-8 Mr '65; Same. Min Eng 17:sup 1-8 Mr '65
 Pittsburgh section off-the-record meeting, 19th, Nov. 5-6; with abstracts of papers. J Metals 17:60+ Ja '65
 Winners of 1965 AIME awards. Min Eng 17: 68-71 Ja '65

Metallurgical society

- Annual meeting, 94th, Chicago, Feb. 14-18; program and abstracts of papers. J Metals 17:81-117 Ja '65
 Directors for 1965/66. J Metals 17:406-7 Ap '65
 Fall meeting, Detroit, Oct. 17-21; program and abstracts of papers. J Metals 17:1009-64 S '65

AMERICAN institute of mining, metallurgical and petroleum engineers—Metallurgical society—Continued
 Fellows of the Metallurgical society. *J Metals* 17:177 F '65
 Operating metallurgy conference and exposition. 1st, Pittsburgh, Nov. 29-Dec. 3; program. *J Metals* 17:885-96 Ag '65
 Physical metallurgy of refractory metals technical conference, French Lick, Ind. Oct. 3-5; program. *J Metals* 17:818-21 Ag '65
 Society of mining engineers
 Meeting, Chicago, Feb. 14-18; program and abstracts of papers. *Min Eng* 16:79-92 D '64
 1965 membership directory. *Min Eng* 17:167-327 J1 '65
 Coal division
 Annual meeting, 94th, Chicago, Feb. 14-18; abstracts of papers. *Coal Age* 70:52-4 Mr '65
 Fall meeting, New York, Sept. 21-25; abstracts of papers. *Coal Age* 69:52+ N '64
 Spring field meeting, Rawlins, Wyo. May 28-29. *Min Eng* 17:92 Ag '65
 Spring field meeting, Rawlins, Wyo. May 28-29; abstracts of papers. *Coal Age* 70:128-9 J1 '65
 Society of petroleum engineers
 Annual fall meeting, 40th, Denver, Oct. 3-6; with program and abstracts of papers. *J Pet Tech* 17:1047-52 S '65
 Program for improving the technical competence of SPE members. M. W. Kriegel. *J Pet Tech* 16:1337-44 D '64
AMERICAN institute of nutrition
 Annual meeting, 29th, Atlantic City, N.J. April 9-14; proceedings. *J Nutrition* 86:439-50 Ag '65
AMERICAN institute of physics
 Annual report, 1964. *Phys Today* 18:34-52 My '65
 Taxation threat to the progress of American physics. R. A. Sawyer. *Phys Today* 18:23 My '65
 Van Zandt Williams named as new director of AIP. *Phys Today* 18:76 F '65
AMERICAN institute of plant engineers
 Chapter activities. *Plant Eng* 18:146-7 N '64; 19:148-9 J1; 152-3 S '65
 1965-66 officers installed. *Plant Eng* 19:148+ Ag '65
AMERICAN machine tool distributors association
 Annual meeting, 40th, Washington, Oct. 21-23. *Am Mach* 108:95-6 N 9 '64
 Annual meeting, 40th, Washington; with abstracts of papers. *Automotive Ind* 131:83+ N 15 '64
AMERICAN medical association
 Congress on environmental health problems, Chicago, May 1-2; texts of papers. *Archives Environmental Health* 9:589-688 N '64
AMERICAN mining congress
 American mining congress continues to actively serve its members through its many divisions. *Il Min Cong J* 51:67-72 J1 '65
 Annual meeting, Washington, Jan. 11-12. *Min Cong J* 51:162-6 F '65
 Coal convention, Pittsburgh, May 9-12; program. *Min Cong J* 51:42-50 Ap '65
 Coal convention, Pittsburgh, May 9-12; with abstracts of papers. *Coal Age* 70:110-15 Je '65; *Min Cong J* 51:56-69 Je '65
 Convention, Portland, Ore., Sept. 13-17; with abstracts of papers. *Min Cong J* 50:76-93 O '64; *Pit & Quarry* 57:127-31 N '64
 Mining show, Las Vegas; products on display and list of exhibitors. *Eng & Min J* 166:124-41 S '65
 Mining show, Las Vegas, with program and list of exhibitors. *Min Cong J* 51:33-55 S '65
AMERICAN nuclear society
 Annual meeting, Philadelphia, June 17-19. *Nucleonics* 22:47 Ag '64
 AIF-ANS meeting, San Francisco, Nov. 30-Dec. 3. *Nucleonics* 23:21-5 Ja '65
 Meeting, Los Angeles. *Elec World* 163:26+ Ap 12 '65
AMERICAN oil chemists society
 Annual meeting, 56th, Houston, April 25-28; program and abstracts of papers. *Am Oil Chem Soc J* 42:sup90A+ Mr '65

Fall meeting, 39th, Cincinnati, Oct. 11-13; program and abstracts of papers. *Am Oil Chem Soc J* 42:sup398A+ Ag '65
 Governing board report to the Society. *Am Oil Chem Soc J* 42:sup334A+ J1 '65
 Report of the instrumental techniques committee, 1963-1964. *Am Oil Chem Soc J* 42:347-51 Ap '65
 Summary of governing board action. *Am Oil Chem Soc J* 41:sup8+ D '64
 Tribute to cooperative growth and new stature; report of the president 1964-65. R. C. Stillman. *Am Oil Chem Soc J* 42:sup284A+ Je '65
AMERICAN petroleum institute
 API monogram; benchmark of progress. *Il Mag. of Stand* 36:139-42 My '65
 API serves as oil industry's Mr Answer Man. D. Martin. *Pet Management* 36:71-6 N '64
 Annual meeting, Chicago. *Oil & Gas J* 63:67-9 N 8 '65
 Annual meeting, 44th, Chicago, Nov. 9-11; with program. *Oil & Gas J* 62:103-4 N 9; 113-36 N 16 '64
AMERICAN physical society
 Joint APS-AAPT meeting, New York, Jan. 27-30. *Phys Today* 18:38-43 Mr '65
AMERICAN power conference
 Annual meeting, Chicago. *Elec World* 163:48-50+ My 31 '65
 Annual meeting, 27th, Chicago, April 27-29; preview, with program and abstracts of papers. *Power Eng* 69:38-9 Ap; 55-7 J1 '65
 Annual meeting, 27th, Chicago, April 27-29; with program and abstracts of papers. *Combustion* 36:43-3 Ap; 39-44 Je; 37:27-35 J1 '65
 Annual meeting, 27th, Chicago, April 27-29; with program and abstracts of papers. *IEEE Trans Power Apparatus & Systems* 84:sup3A-8A Ap; sup 1A-3A Je '65
 Annual meeting, 27th; highlights. *Power Eng* 69:60-1 Ag '65
 Meeting, Chicago; Seaborg and Cisler outline ultimate goals. *Mech Eng* 87:86-7 Je '65
AMERICAN public health association
 APHA's inner strength and national role; presidential address. J. D. Porterfield. *Am J Pub Health* 55:360-3 Mr '65
 Annual meeting, 93d, Chicago, Oct. 18-22; program and list of exhibitors. *Am J Pub Health* 55:1231-309 Ag '65
 Committee on professional education; report of the chairman, 1964. *Am J Pub Health* 55:463-6 Mr '65
 Committee reports, 1963-1964. *Am J Pub Health* 55:283-92 F '65
 Committees and association representatives, 1964-1965. *Am J Pub Health* 55:295-327 F '65
 Governing council 92d annual meeting, New York, Oct. 7; resolution. *Am J Pub Health* 54:2095-102 D '64
 History of the antigen committees of the American public health association. W. E. Bunney and others. *Bibliog Am J Pub Health* 55:1451-9 S '65
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 Technical development board; report of the chairman, 1963-1964. *Am J Pub Health* 55:122-7 Ja '65
AMERICAN public power association
 Annual meeting, 22d, Los Angeles, May 3-6. *Elec World* 163:19+ My 24 '65
AMERICAN radio relay league
 ARRL, 1959-1964; the quickened pace. *Il map diag Q S* 48:85-93 D '64
 Announcing 1965 annual simulated emergency test. *QST* 49:30-1+ O '65
 Board of directors annual meeting, Quebec City, May 21-22. *QST* 49:35-47 J1 '65
 Men who made league history; all-time list of directors. P. F. Williams, comp. *QST* 49:37-9 N '65
 National convention, 14th, San Jose, Calif., July 2-5; with program. *QST* 49:52-5 My; 52-4 Je '65
 Public service through civil defense communications; a ten-point program on organizing amateurs to provide a communications service. G. E. White. *QST* 49:28-31 Ap '65
 Results; 1965 DX competition. E. White, comp. *Il QST* 49:64-85 O '65
 Using the national calling and emergency frequencies. G. Hart. *QST* 49:60-3 Mr '65
 What ARRL means to me. K. G. Young. *Q S T* 49:64+ Ja '65
AMERICAN road builders association
 Alabama's John Moss heads A.R.B.A. *Eng N* 174:50-1 Mr 4 '65

- AMERICAN road builders association—*Cont.*
Annual meeting, 63d, Washington, Feb. 21-24, Eng N 174:22 Mr 4 '65; Civil Eng 35: 94-5 Ap '65; Roads & Sts 108:48 Ap '65
- AMERICAN society for clinical nutrition
Annual meeting, 5th, Atlantic City, N.J., May 1; program and abstracts of papers, Am J Clinical Nutrition 16:380-94 Ap '65
- AMERICAN society for quality control
Annual report of the board of directors, map Ind Quality Control 22:245-52 N '65
Annual technical conference and exhibit, 19th, Los Angeles, May 3-6; program and list of exhibitors, Ind Quality Control 21:523-31 Ap '65
1965-66 organization manual, Ind Quality Control 22:189-96 O '65
Your ASQC career advancement program, Ind Quality Control 21:409-12 F '65
- AMERICAN society for testing and materials
ASTM, challenges and opportunities; president's address, C. L. Kent, Materials Res & Stand 5:421-2 Ag '65
ASTM committee B-8 meeting, Cleveland, Feb. 9-11, Plating 52:427-9 My '65
Annual meeting, 68th, Lafayette, Ind, June 13-18; abstracts of papers, Pit & Quarry 58:103-54 S '65
Annual meeting, 68th, Lafayette, Ind, June 13-18; with program and abstracts of papers, Materials Res & Stand 5:247-58 My '65
Board of directors meeting, Philadelphia, May 11, Materials Res & Stand 5:534-7 O '65
Committee D-11 meeting, Lafayette, Ind, June 14-18, Rubber Age 97:113-15 Jl '65; Rubber World 152:57-8 Ag '65
Committee D-11 on rubber and rubberlike materials meeting, Washington, Feb. 17-19, Rubber Age 96:912-13 Mr '65
Committee D-12 on soaps and other detergents meeting, New York, Jan. 18-19, Soap & Chem Spec 41:99-4 F '65
Highlights of 1964 operations, II Materials Res & Stand 5:85-96 F '65
New ASTM publications, Published in monthly numbers of Materials research & standards
1965 honors and awards, Materials Res & Stand 5:423-31 Ag '65
Pacific area national meeting, 5th, Seattle, Oct. 31-Nov. 5; program, Materials Res & Stand 5:476-83 S '65
Robert F. Leggett; what ASTM does is fine; it can do more, Eng N 174:57-4 Je 24 '65
- AMERICAN society of civil engineers
ASCE names Hedley president, Eng N 175: 51-2 O 28 '65
ASCE policy on the registration of engineers, Am Soc C E Proc 91 (PP 2 no 44601:11-33 S '65
Annual meeting and environmental engineering conference, Kansas City, Oct. 13-25; program, Civil Eng 35:76-84 Ag '65
Annual meeting, Kansas City, Eng N 175:15-16 O 28 '65
Are we geared to long-range objectives? Presidential address, W. L. Chadwick, Civil Eng 35:38-9 Ja '65
Coastal engineering conference, Santa Barbara, Calif, Oct. 11-13; program, Civil Eng 35:68-9 S '65
Continuing education; what ASCE is doing, W. A. Conwell, Civil Eng 35:32 My '65
Design for the future, W. L. Chadwick, Civil Eng 35:36-9 Je '65
Hydraulics division conference, Tucson, Ariz, Aug. 25-27; program, Civil Eng 35:73-5 Jl '65
Irrigation and drainage conference, Billings, Mont, Oct. 6-9; program, Civil Eng 35:72-3 S '65
Pacific Northwest conference, Richland, Wash.; abstracts of papers, Civil Eng 35: 78-9 S '65
Quality in engineered construction conference, St Louis, June 16-18; program, Civil Eng 35:76-9 Ap '65
Structural engineering conference, New York, Oct. 19-23; with abstracts of papers, Civil Eng 34:41-7 N '64
Transportation engineering conference, Minneapolis, May 17-21; program, Civil Eng 35: 65-72 Mr '65
Urban planning and development division conference, San Juan, Puerto Rico, Oct. 28-29; program, Civil Eng 35:70-1 S '65
Water resources engineering conference, Mobile, Ala, March 8-12; program, Civil Eng 35:74-83 Ja '65
- AMERICAN society of heating, refrigerating and air-conditioning engineers
ASHRAE officers, directors, committeemen, ASHRAE J 6:76-8 D '64; 7:95-7 Ap; 102-4 Je; 76-7 S; 102-3 N '65
- ASHRAE research in retrospect, J. Everette, Jr. ASHRAE J 6:38-41 D '64
Annual meeting, 72d, Portland, Ore.; abstracts of papers, Air Cond Heat & Ven 62:83-4 Ag '65
Annual meeting, 72d, Portland, Ore, July 5-7; with program and abstracts of papers, ASHRAE J 7:39-56 Je; 69-84 Ag '65
Financial statements, ASHRAE J 6:55 D '64
Semiannual meeting and exposition, Chicago, Jan. 25-28; program, floor plan, and list of exhibitors, Air Cond Heat & Ven 62:70-6 Ja '65
Semiannual meeting, Chicago, Jan. 25-28; with program and abstracts of papers, ASHRAE J 7:39-71 Ja; 44-61 Mr '65
- AMERICAN society of lubrication engineers
Annual meeting and lubrication show, Detroit, May 4-7; program, Lub Eng 21:84-6 Mr '65
Origin and development of awards program, Lub Eng 21:4-5+ Ja '65
- AMERICAN society of mechanical engineers
Annual meeting, New York, Product Eng 35:53-4 D 21 '64
Annual meeting, New York, Nov. 29-Dec. 4; abstracts of papers, Combustion 36:49-55 F; 29-31 Mr '65; Power Eng 69:63-5 F '65
Council report to the membership, 1964-65, Mech Eng 87:105-20 S '65
Inside ASME, M. Barragon, Published in monthly numbers of Mechanical engineering
1966-1967 officers elected, Mech Eng 87:110-12 N '65
Petroleum mechanical engineering conference, 19th, Los Angeles, Mech Eng 86:108-4 N '64
Petroleum mechanical engineering conference, 20th, Houston, Tex, Sept. 19-22; with program, Mech Eng 87:86-8 Ag; 102-3 N '65
Philosophy of power test codes and their development, S. L. Kerr, A S M E Trans ser A 87:105-12; Discussion, 112-15 Ja '65
Regional student conference, 1965; list of papers and prizes, Mech Eng 87:100-1 O '65
Reliability and maintainability conference, 4th, Los Angeles, Calif, July 28-30; with program, Mech Eng 87:94-5 Je; 94-5 S '65
Restructuring ASME for a dynamic future, Mech Eng 87:22-7 Ja; 46-7 F '65; Discussion, 87:88-90 Ap '65
Sections active with students, Mech Eng 87: 92 Jl '65
Winter annual meeting, 85th, New York, Nov. 29-Dec. 3, Mech Eng 87:88-107 Ja '65; Product Eng 35:53-4 D 21 '64
Winter annual meeting, 86th, Chicago, Nov. 7-11; with program, Mech Eng 87:92-3 S; 94-5 O '65
See also
Design engineering conference
National power conference
- Energetics division
International conference, Rochester, Aug. 18-20, Mech Eng 87:96-7+ O '65
- Gas turbine power division
Conference and product show, Washington, February 28-March 4, Mech Eng 87:105-7 Ap '65
- Underwater technology division
Meeting, 1st, New London, Conn, May 5-7, Mech Eng 87:95 F; 84-6 Je '65
- AMERICAN society of naval engineers
ASNE day 1965, Naval Eng J 77:337-62 Je '65
- AMERICAN society of perfumers
Annual symposium, 10th, New York, Oct. 21; with abstracts of papers, Soap & Chem Spec 40:65-8+ N '64; Drug & Cosmetic Ind 52:390-14 D '64
Annual symposium, 10th, with texts of papers, Am Perfumer 79:27-56 D '64
Annual symposium, 11th, New York, April 21; abstracts of papers, Soap & Chem Spec 41: 143-5+ My '65; Am Perfumer 80:43-63 Je '65
- AMERICAN society of sanitary engineering
Annual meeting, 58th, Philadelphia, Air Cond Heat & Ven 61:65-8 N '64
- AMERICAN society of tool and manufacturing engineers
Engineering conference and tool exposition, Cleveland, March 23-April 2; with program, list of exhibitors and products on display, Iron Age 195:116-4, 123-4 Mr 18 '65
Headquarters to serve growing Society, II Tool & Manuf Eng 54:66-9 Ap '65
Technical activities committee meeting, Dearborn, Mich, June 17, Tool & Manuf Eng 55:55-7 Ag '65
Tool exposition, Cleveland, March 29-April 2, products on display, Mach 71:123-38 Mr '65

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ASA standardization activity in fasteners. P. F. Pick. *Wire & Wire Prod* 40:677-9 My '65
Chesebrough elected president, McCune vice-president. *Mag of Stand* 36:3-4 Ja '65
McNair retires from ASA; Frost becomes technical director. *Mag of Stand* 36:205-7 JI '65

Stronger ASA urged. *Materials Res & Stand* 5:186-7 Ap '65

AMERICAN textile machinery association

Annual meeting, Greenville, S.C. March 3. *Am Dyestuff Rep* 64:270+ Ap 12 '65

AMERICAN vacuum society

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Amendments to AWWA bylaws in 1964. *Am Water Works Assn J* 56:1499-500 N '64

AWWA directory 1964, membership list, etc. *Am Water Works Assn J* 56:1-297 pt 2 N '64

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Committee reports, publications and auditors' reports for the year ending Dec. 31, 1964; membership growth, membership awards. *Am Water Works Assn J* 57:505-42 Ap '65

Illinois section annual conference, 56th, Chicago, March 9-12. *Water & Sewage Works* 112:188-9 My '65

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Indiana section annual meeting, 57th, Indianapolis; abstracts of papers. *Water Works & Wastes Eng* 2:55-6 Ap '65

AMERICAN welding society

Annual meeting and exposition, 46th, Chicago, April 26-30; with program and list of exhibitors. *Welding J* 44:293-8, 305-9, 492+ Ap, Je '65

Annual meeting and welding exposition, 46th, Chicago, April 26-30; abstracts of papers. *Steel* 156:104-5+ Ap 19 '65

Annual meeting and welding show, Chicago, April 26-30; program. *Iron Age* 195:134-6 Ap '65

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Cystine
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Hawaii

Unusual structure boldly expressed; Tree House, Honolulu. il plans Arch Rec 137:216-17 Ap '65

Illinois

Play of volumes; Barrington. il plans diag Prog Arch 46:178-83 My '65

Sliding roof gives house year round use of patio, il plan Arch Rec 137:157-60 F '65

Louisiana

Light pyramids add drama to flexible spaces, il plans diag Arch Rec 137:98-101 Mid-MY '65

Maryland

Remarkable space and height in small house, il plan diag Arch Rec 137:102-5 Mid-MY '65

Massachusetts

Series of villages built around recreation; New Seabury, Wauquoit, Cape Cod, Mass. il plans Arch Rec 138:148-51 N '65

Tradition restudied; Wayland. il plan diag Prog Arch 46:174-7 My '65

Variety in levels creates interesting spaces, il plans diag Arch Rec 137:110-13 Mid-MY '65

Michigan

Clustered development gets park as bonus, il plans Arch Rec 137:114-17 Mid-MY '65

Modular scheme provides disciplined variety, il plans Arch Rec 137:90-3 Mid-MY '65

Neutral container; Plymouth. il plans diag Prog Arch 46:156-61 My '65

Well-zoned house has bold spaces; Bloomfield Hills, Mich. il plan diags Arch Rec 137:163-6 Mr '65

Minnesota

Brick columns and a broad roof shelter a glass-walled house, il plans Arch Rec 138:167-70 Ag '65

New England

New England tradition continued, il plans diags Prog Arch 46:184-53 J1 '65

Oklahoma

Romantic formality; Oklahoma City, il plans diags Prog Arch 46:148-55 My '65

Oregon

Two-level house adapts well to slope, il plans Arch Rec 137:122-5 Mid-MY '65

ARCHITECTURE, Domestic—Continued

Pennsylvania

- Clustered pavilions; Bryn Athyn. II plans
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Complexities and contradictions; Chestnut
Hill. II plans diag Prog Arch 46:168-73
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Conscious contrasts; Fairmount Park, Phila-
delphia. II plan diag Prog Arch 46:136-41
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Country house highlights regional qualities;
Stornoway, Ligonier. II plans Arch Rec
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Dramatic living space on two levels; resi-
dence; Pittsburgh. II plans diag Arch Rec
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Purposefully regional architecture; country
house by Winston Elting reflects the char-
acter of the Pennsylvania countryside. II
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South Carolina

- Varied land use, consistent design; Sea
Pines plantation, Hilton Head Island, S.C.
II plans diag Arch Rec 138:145-7 N '65

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- Highly designed use of highly developed
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 Metallurgy
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 Mines and mineral resources
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 Paleoclimatology
 Petroleum
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 Petroleum laws and regulations
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For brass and copper; a new strip mill. *il* Engineering 198:595 N 6 '64
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BRASS tubes. See Tubes, Brass**BRASS work**

- Brassmaker anticipates customers' needs. *il* Steel 156:64+ Je 28 '65
Forging slugs cut to weight every time, automatically. F. D. Lakins. *il* Mach 71:94-7 F '65
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- Computer takes charge in one-product brass mill. T. H. Malim. *il* Iron Age 196:88-90 O 7 '65

Equipment

- Modernised brass strip mill in Illinois. *il* plan Engineer 213:119-20 Ja 8 '65

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BRAZIL

- See also* subdivision Brazil under special

- subjects, e.g.
Engineering
Geology
Hydroelectric plants
Iron mines and mining
Iron ores
Mines and mineral resources
Petroleum industry and trade
Roads
Traffic regulations

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- Silver solder
- Solder and soldering

BRAZING, Silver. See Silver solder**BREAD**

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Equipment

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Wort**BRICK, Fire. See Fire brick****BRICK construction**

- Deft handling of concrete and brick: Munson Hill Towers, Fairfax County, Va. *il* plans Arch Rec 137:214-15 Ap '65

*See also***Walls, Brick****BRICK handling**

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- Ball bearings support steel bridge. *il* diag Eng N 174:35-6 Mr 11 '65
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- Canadians build a Morandi-type bridge. *il* diags Eng N 173:28-30+ D 3 '64
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Old Melan arch crumbles away. *Il Eng N* 175:18 J1 15 '65

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See also

Gas supply—Bridgeport, Connecticut

BRIDGES

Getting paving equipment across bridges. *Il Roads & Sts* 108:111 O '65

Roads, bridges and tunnels: illustrations with text. Engineer 219:20-1 Ja 1 '65

World's longest spans: illustrations with text. Engineer 219:18-19 Ja 1 '65

See also

Bridge design

Hudson River bridges

Pipe lines—Bridge crossing

also subdivision Bridges under names of cities, e.g.

Bristol, England

Cincinnati

Cologne, Germany

Hobart, Tasmania

Lisbon

Lübeck, Germany

Minneapolis

Montreal

New York (city)

Oakland, California

Paris

Philadelphia

Portland, Maine

Quebec (city)

St Louis

Stockholm

Topeka, Kansas

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Short spans compete for Expo '67 site. *Il diags Eng N* 175:124 O 14 '65

Bearings

See Bridge bearings

Costs

Bidding close for steel bridge; unit prices. *Eng N* 175:52 S 2 '65

Bids above estimate for Hawaii bridges, channel; unit prices. *Eng N* 175:172 Ag 12 '65

Bridge over the Mississippi; unit prices. *Eng N* 173:47 D 24 '64

Bridge piers in Portsmouth Bay; unit prices. *Eng N* 174:59 Mr 25 '65

Bridges for Indiana interstate; unit prices. *Eng N* 175:57 Ag 5 '65

Orthotropic bridge superstructure; unit prices. *Eng N* 173:155 N 12 '64

Prestressed highway bridge; unit prices. *Eng N* 174:42 Ap 1 '65

Steel vies with concrete for West Virginia bridges; unit prices. *Eng N* 175:140+ S 16 '65

Erection

Aluminum makes beam launcher. *Il Eng N* 175:48 S 9 '65

Bethlehem Steel erects test span at Sparrows Point. *Il Civil Eng* 34:92 D '64

Big trusses and girders span two shipping channels; Cooper River at Charleston, S. C. *Il diags Roads & Sts* 108:52-5 J1 '65

Bolted bridge behavior during erection and service. E. Chesson, Jr. *Il diags Am Soc C E Proc* 91 (ST 3 no 4365):57-70 Je '65

Bridge slashes driving time 65 per cent. *Il Eng N* 175:46 O 7 '65

Building the new Tay Road bridge. *Il map diags Engineering* 199:633-6 My 14 '65

Canadians build a Morandi-type bridge. *Il diags Eng N* 173:28-30+ D 3 '64

Delaware span's twin gets steel. *Il Eng N* 175:61 O 14 '65

European prestress specialists perfect their bridge technique. *Il diags Eng N* 175:110-12 O 14 '65

Europe's longest span bridge takes shape in Lisbon. W. G. Bowman. *Il diag Eng N* 174:34-6 F 4 '65

High span leaps Oroville Gorge. *Il Eng N* 174:33 Mr 25 '65

Ingenuity and prestressing make a low-cost bridge. *Il diags Eng N* 174:30-2 Ap 1 '65

Innovations dominate Severn bridge design. J. Trotter. *Il map diags Eng N* 173:34-8 N 19 '64

Montreal hosts a double bridge spectacular in the St Lawrence. *Il Eng N* 175:24-7+ Ag 5 '65

Orthotropic bridge erection starts over the Mississippi River at St Louis. *Il Eng N* 175:27 S 23 '65

Pinned, precast struts simplify prestressed girder erection. *Il Eng N* 174:44-6 My 13 '65

Prototype bridge features unitized construction. *Il Pub Works* 95:108 D '64

Steel beams link New Hampshire and Vermont. *Il Eng N* 175:62-4 S 16 '65

Suspension bridge has deck of precast, post-tensioned concrete. *Il diag Eng N* 174:38-40+ Ja 14 '65

Tagus River bridge. *Il Comp Air Mag* 70:4-7 Je '65

Tay road bridge. W. A. Fairhurst and A. Beveridge. *Il Engineer* 219:464 Mr 12 '65

Unique four-level bridge; crane sets steel in tight quarters. *Il Roads & Sts* 108:52-5 My '65

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Very high-level bridge spans the Rio Grande. *Il map Eng N* 174:28-30+ Ap 29 '65

See also

Bridges—Welding operations

Floors

Automatic screed, 100 ft long can be towed by a pick-up. *Il Eng N* 175:50 O 7 '65

Cooper River bridge, Charleston, S.C.; longitudinal bridge finisher takes 80-100 foot swaths. *Il Roads & Sts* 108:59-61 Ag '65

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Epoxy paving cement fights bridge deck wear. H. F. Lange. *Il Pub Works* 96:113-15 Je '65

First U.S. orthotropic bridge to span Mississippi at St Louis. *Il diags Welding Eng* 50:68+ Ja '65

Frame-suspended float finishes wide freeway deck. *Il diag Roads & Sts* 107:60-2 S '64

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Linseed-oil protection for New York State thruway bridges. R. J. Walsh. *Il Civil Eng* 35:39-41 J1 '65

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Narrows bridge gets quality concrete deck. I. M. Roth. *Il diag Roads & Sts* 107:28-31+ O '64

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- Welding speeds gridwork on Manhattan bridge roadways. il diag Welding J 43:1029 D '64
- Welding strengthens roadway of longest suspended bridge span. il Welding J 43:947-8 N '64
- What we learned about epoxy treatment for bridge decks. P. Thomson. il diag Pub Works 96:118-20 F '65

Foundations and piers

- Bell-pier construction, recent developments and trends; major bridge piers in deep water. B. C. Gerwick, Jr. bibliog il diags Am Concrete Inst J 62:1281-91 O '65
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- Contractor uses an oil-well bit to install precast piles. il Eng N 174:30-1 Mr 11 '65
- Cooper River bridge, Charleston, S.C.; pier methods in tidal current. il Roads & Sts 108:60-1+ S '65
- Crumbled piles undermine bridge pier. il Eng N 175:19 J1 15 '65
- Floating rigs build piers. H. K. Glidden. il diags Roads & Sts 108:45-7+ F '65
- Gothic arches carry girder span. il Eng N 174:23 Mr 4 '65
- Installing long caissons in the Mississippi calls for ingenuity. il Eng N 175:38-9 S 9 '65
- Spans are reset while traffic flows above; Cooper River bridge at Charleston, S.C. il Eng N 175:28-30 S 2 '65
- Trusses work 12 days nonstop. il Eng N 174:37 Ar 1 '65
- Truck crane tops out high piers. il diag Roads & Sts 107:34-7+ N '64
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Caissons
Piles and pile driving

Inspection**See Bridge inspection****Lighting**

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- Ancient masonry bridge saved by double jeopardy rescue operation. il Eng N 175:20-1 J1 22 '65
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- Bridge electrical department uses ultrasonic cleaning of electrical equipment. il diag Elec Constr & Maint 64:122-3 Ap '65
- Bridge scaffold converts to crane. il Eng N 175:48 S 2 '65
- Detecting hollow areas with a bridge deck thumper. W. M. Stingley. diag Pub Works 96:141 Ap '65
- Economical repair of county bridges. D. R. Goodkind and E. H. Drew. il Pub Works 96:110-11+ My '65
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- Surgery restores old viaduct; hand labor was the problem. H. K. Glidden. il diags Roads & Sts 108:48-51, 110-11 O '65
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- Maracabo bridge is repaired and open. il Eng N 173:31 D 24 '64
- Rebuilding of Trisanna bridge. il Engineer 218:906-7 N 27 '64
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- Two-stage bridge rehabilitation. P. K. MacNevin. il diag Pub Works 96:76-7 Ja '65
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Welding operations

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- Innovations dominate Severn bridge design. J. Trotter. il map diags Eng N 173:34-8 N 19 '64
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British Columbia

- Canadians build a Morand-type bridge. il diags Eng N 173:28-30+ D 3 '64

Japan

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- Long arch opens Paraguay to the sea. il map Eng N 174:16 Ap 1 '65

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BRIDGES, Bascule

- Bascule bridge near Lübeck. il Engineer 219:114-15 Ja 8 '65

BRIDGES, Cantilever

- Bridge construction with post-tensioned concrete. R. T. Trudeau. il diag Pub Works 96:104-5 J1 '65

- Centring for huge bridge abutments. O. Valenta. il diag Engineering 200:414 S 24 '65

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Framing (building)
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Automobile industry and trade
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Chemical industries
Coal supply
Electric apparatus industry
Electric lines
Electric plants (central stations)

CANADA—See also—Continued

Electric utilities
Engineering
Engineering education
Engineers
Fertilizer industry
Gas, Natural
Gas, Natural—Pipe lines
Geology
Hydroelectric plants
Income tax
Insurance, Health
Iron mines and mining
Iron ores
Libraries
Metal trade
Metal working industries
Mineral industries
Mines and mineral resources
Mining industry and finance
Mining law
Molybdenum mines and mining
Moving picture industry
Paint industry and trade
Paper and pulp mills
Paper industry and trade
Petroleum
Petroleum industry and trade
Petroleum supply
Plastics industries
Railroads
Roads
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Waterways

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Waterways

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Alkylation
Bromination
Catalysis
Combustion
Decomposition
Disproportionation
Friedel-Crafts reaction
Grignard reaction
Hydrolysis
Meerwein reaction
Molecular compounds
Nitration
Oxidation
Oxo process
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Precipitation (chemistry)

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Hydroxyquinoline
Isocyanates

CHEMICAL reduction. See Reduction, Chemical

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See also

Ceramic research
Chemical plants—Experimental plants
Electron microscope
Gas research
Industrial research
Metallurgical research
Paper research
Petroleum research
Pharmaceutical research
Plastics research
Rubber research
Textile research

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Concrete construction
Dams
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Gasoline plants
Heating
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- Modular coordination (architecture)
- Structures, Theory of
- Textile design
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- Airplanes, Supersonic
- Ammeters
- Amplifiers
- Atomic power plants
- Automobile engines
- Automobiles
- Bearings
- Chemical plants
- Concrete construction
- Diesel engines
- Electric circuit breakers
- Electric generators, Direct current
- Electric plants (central stations)
- Electric transformers
- Electronic circuits
- Factories
- Heat exchangers
- Hydroelectric plants
- Internal combustion engines
- Machine tools
- Machinery
- Paper and pulp mills
- Pistons
- Pottery
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 Thyatron
 Valves—Electric control
 Voltage regulation
also subdivisions Control and Control uses under special subjects, e.g.
 Airplanes
 Airplanes, Military

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- Electricity in mining
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Airplanes
Airports
Amusement parks
Apartment houses
Automobiles
Bank buildings
Chemical plants
Coal mines and mining
College buildings
Cranes, derricks, etc.
Factories
Guided missile bases
Guided missiles
Hospitals
Insurance company buildings
Metal working plants
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Electric distribution

Electric plants (central stations)

Electric transmission

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Electric welding, Arc—Power supply

Hydroelectric power

Magnetohydrodynamics

Power factor

Radio apparatus—Power supply

Steam plants—Combined power and heating

Wind tunnels—Power supply

also subdivision Power under special subjects, e.g.

Aluminum works

Chemical plants

Coal mines and mining

Metallurgical plants

Packing houses

Paper and pulp mills

Rolling mills

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Textile mills

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See also

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Corona (electricity)
Dielectrics
Electric currents
Electroacoustics
Electrodynamics
Electrophysiology
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Electrodeposition of metals
Electrolytic cells
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Molybdenum metallurgy
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Synchrotron

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Electric utilities
Gas companies
Highway departments
Hospitals
Petroleum refineries
Plumbing shops
Quarries and quarrying
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Audio engineering society

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Engineers council for professional develop-
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Engineers joint council

Illuminating engineering society

Institute of electrical and electronics engineers

Institution of mechanical engineers

National society of professional engineers

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Magnesium industry and trade
Oil fuel industry
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Paper industry and trade
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Automobiles

Chemical industries

Computers

Construction equipment

Control equipment

Electric apparatus and appliances

Electronic apparatus and instruments

Gas industry

Graphic arts

Heating equipment

Instruments

Machine tools

Machinery

Mechanical handling

Mining machinery

Motor buses

Motor trucks

Motor vehicles

Office appliances

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- Fire extinguishers
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Equation of state
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Helium
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Flow sheets
Least squares
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- See also
Pendulum
- GRAVITY, Specific.** See Specific gravity
- GRAVITY meters.** See Gravimeters
- GRAWE, Oliver Rudolph**
Memorial. S. C. Grawe. *por Am Assn Pet Geologists Bul* 49:1011 J1 '65
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GREASE

- See also
Lubricating greases
Sewage disposal—Grease and oil removal

GREAT BRITAIN

- See also
Gas, Natural—Great Britain, Supply to
also subdivision Great Britain under special subjects, e.g.
Aeronautic research
Aeronautics
Aeronautics, Commercial
Aeronautics, Military
Airplane industry and trade
Aluminum industry and trade
Atomic power plants
Atomic research
Automobile industry and trade
Bridges
Building
Chemical industries
Cities and towns
Coal mines and mining
Coal trade
Colleges and universities
Cosmetic industry and trade
Education
Electric apparatus industry
Electric industries
Electric lines
Electric plants (central stations)
Electric railroads
Electric utilities
Electricity supply
Electronics industry
Engineering
Engineering education
Fish industry
Food industry and trade
Fuel supply
Gas, Natural
Gas industry
Gas supply
Harbors
Housing
Hydroelectric plants
Irrigation
Labor supply
Machine tool industry
Metal working industries
Mines and mineral resources
Moving picture industry
Oil fuel industry
Petroleum industry and trade
Plastics industries
Radio broadcasting
Railroads
Railroads—Electrification
Rivers
Roads
Science and state
Scientific education
Scientific research
Sewerage
Shipbuilding
Shipping
Space research
Steel works
Technical education
Telephone
Television broadcasting
Textile industry
Trade unions
Transportation
Water supply

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Terminals

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Hinges

Screws

Tools

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Mine haulage

Motor trucks

Motor trucks in construction work

Petroleum—Transportation

HAUSFELDER, Ludwig

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HAWAII

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Oahu (island)

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Gas industry

Geology

Mines and mineral resources

Shipping

Transportation

Water, Underground

Water supply

HEAD

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See also

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See also

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Delaware River

Niagara River

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See also

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also subdivision Isotopes under special subjects, e.g.
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Carbon
Cesium
Chromium
Copper

Helium
Iodine
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- Stage lighting
- Street lighting
- Tunnel lighting
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- Airports
- Auditoriums
- Automobile sales buildings
- Ballrooms
- Bank buildings
- Baseball fields
- Bridges
- Churches
- Conference rooms
- Courthouses
- Denver
- Department stores
- Drafting rooms
- Electric plants (central stations)
- Exhibition buildings
- Factories
- Gardens
- Gasoline service stations
- Golf links
- Gymnasiums
- Hosiery mills
- Kitchens
- Laboratories
- Library buildings
- Lobbies (architecture)
- Machine shops
- Microscope and microscopy
- Monuments
- Moscow
- Motels
- Moving picture photography
- Photography
- Printing offices
- Recreation rooms
- Roads
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- Television studios
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 - Water as lubricant
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 - Airplane engines
 - Automobile engines
 - Automobiles
 - Bearings
 - Bearings, Ball
 - Bearings, Roller
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Bending
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Chucks
Dies
Drafting room practice
Drilling and boring (metal working etc.)
Forging
Foundry practice
Gages
Gear cutting
Grinding
Grinding machines
Grooving
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Riveting
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Stamping
Steel works

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Tolerance
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Bearings
Crankshafts
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Electric motors
Gas turbines, Aircraft
Gearing
Guided missiles
Guns (ordnance)
Keys and keyways (machinery)
Lawn mowers
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Bending machines

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Broaching machines

Chuck machines

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Punching machinery

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Screw machines

Shears (machines)

Slotting machines

Swaging machines

Tapping machines

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- Machine tool show, Chicago, Sept. 20-30. Automotive Ind 133:131-50 S 1; 73-9+ N 1 '65; Iron Age 196:133-4+ S 9; 73-83 O 14 '65
- Machine tool show, Production engineering show, and international machinery show, Chicago, Sept. 20-30. *Il Mach* 72:180-244 S; 131-46 O; 131-50 N '65
- Machine tool show; Production engineering show; Third international machinery show; products on display. *Il Steel* 157:245-8+ S 13 '65; Am Mach 109:121-36 O 11 '65; Product Eng 36:65-9 O 25 '65
- National machine tool builders' show, Chicago, Sept. 20-30; floor plan, list of exhibitors and products on display. Am Mach 109:159-260 S 13 '65
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- Red tools shown at Leipzig. R. Miktown. *Il Am Mach* 109:83-4 Mr 29 '65
- Spring trade fair, Leipzig. *Il Product Eng* 36:59-60 Ap 12 '65
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Chucks
Holding devices (machine work)
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See Machinery—Foundations

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MACHINE translation. See Translating machines

MACHINE work

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Automobiles—Manufacture
Broaching
Centering (machine work)
Grinding
Honing
Indexing (machine work)
Machine shop practice
Plastics—Cutting
Time study (of machinery)
Tolerance
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Copying processes

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- Balancing of machinery
- Bearings
- Belting
- Bending machines
- Bolts and nuts
- Brakes
- Broaching machines
- Bushings
- Calculating machines
- Calenders
- Casting machines
- Clamps
- Cleaning machinery
- Clutches
- Coal mining machinery
- Conveying machinery
- Couplings
- Cranes, derricks, etc.
- Crankcases

- Crankshafts
- Crushing machinery
- Cutting machines
- Cutting off machines
- Die casting machines
- Disks
- Dyeing machines
- Electric machinery
- Electric welding machines
- Engineering
- Excavating machinery
- Fans, Mechanical
- Filling machines
- Fits (machinery)
- Food machinery
- Forging machinery
- Foundry machinery
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- Gear cutting machines
- Governors (machinery)
- Hoisting machinery
- Hydraulic machinery
- Hydraulic presses
- Internal combustion engines
- Jacks
- Jigs
- Knitting machines
- Lathes
- Looms
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- Machine tools
- Marking machines
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- Pins, Machinery
- Planing machines
- Plating machinery
- Pneumatic machinery
- Polishing machines
- Power transmission
- Presses
- Printing machinery
- Printing presses
- Pulleys
- Pumping machinery
- Pumps
- Refrigeration and refrigerating machinery
- Riveting machines
- Road making machinery
- Rolls
- Screw machines
- Screwdriving machines
- Shafting
- Shafts
- Shapers
- Shoe machinery
- Shoveling machines
- Spinning machinery
- Springs (mechanism)
- Steam turbines
- Tamping machines
- Testing machines
- Textile machinery
- Threading machines
- Time study (of machinery)
- Tools
- Trenching machinery
- Turbines
- Valves
- Washers (machinery)
- Winding machines
- Wire forming machines
- Woodworking machinery

Alignments

See Alignment of machinery

Anchoring

See Machinery—Foundations

Balancing

See Balancing of machinery

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- Degreasing solvents; production's dependable detergents. *il* *Mill & Factory* 76:56-7 Ja '65
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MACHINERY—Continued**Control**

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Grinding machines—Control

Textile machinery—Control

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See also

Cams

Design engineering conference

Drafting room practice

Fits (machinery)

Friction

Gearing—Design

Machine tools—Design

Machinery. Kinematics of

Exhibitions

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- Pitot tubes
- Pressure measurement
- Radio measurements
- Standards of length
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- Electric cutting
- Electrochemical cutting
- Gear cutting
- Grooving
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- Milling
- Milling cutters
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Molybdenum, Powdered
Nickel, Powdered
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 - Enamel and enameling
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 - Glass coating
 - Metal coating
 - Paint, Protective
 - Painting, Industrial
 - Phosphate coating
 - Plastic coating
 - Titanium plating
 - Zinc coating

also subdivision Protection under special subjects, e.g.

- Aluminum
- Beryllium
- Magnesium
- Niobium
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Phosphate rock
Pollucite
Quartz
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also subdivision Models under special subjects, e.g.
Atoms
Crystallography
Dams
Diesel engines

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Space vehicles
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Evaporation
Food, Dried
Humidity
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Soil moisture
Water vapor

also subdivision Moisture content under special subjects, e.g.

Clay
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NEW ENGLAND

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Electric lines

Electric utilities

Gas, Natural

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Hydroelectric plants

Iron mines and mining

Mines and mineral resources

Petroleum

Petroleum industry and trade

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Water supply

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also subdivision Patents under special subjects, e.g.

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Compressibility

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Diffusion

Dimensional analysis

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Elasticity

Electrodynamics

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Expansion (heat)

Floating bodies

Fluids

Fluorescence

Force and energy

Free energy

Friction

Geophysics

Gravitation

Gravity

Heat

Heat transmission

Inertia (mechanics)

Ionization, Gaseous

Ions

Light

Liquids

Magnetism

Matter

Mechanics

Meteorology

Molecules

Music—Acoustics and physics

Neutrons

Nuclear physics

Particles, Elementary

Photoelasticity

Plasma (physics)

Plasticity

Porosity

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Pressure
Quantum theory
Radiation
Reflection (optics)
Relativity (physics)
Relaxation time (physics)
Sound
Space and time
Statistical mechanics
Steam
Temperature
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Servomechanisms
Ship propulsion
Solar power
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Automobile factories
Chemical plants
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 Clutches
 Compressed air
 Couplings
 Electric distribution
 Electric driving
 Electric transmission
 Gearing
 Gearmotors
 Hydraulic transmission
 Hydrostatics
 Joints, Universal
 Pneumatic transmission
 Power (mechanics)
 Servomechanisms
 Shafting
 Speed variation
 Torque converters
 also subdivision Transmission under special subjects, e.g.
 Automobiles
 Motor buses
 Motor trucks
 Motor vehicles
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 Tractors

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See also

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- Employment management
- Factories
- Gas companies

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Printing offices
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RECORDS, Microfilm. See Microfilm records

RECORDS, Phonograph. See Phonograph records

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Corrosion research

Electric research

Electronics research

Engineering research

Food research

Forestry research

Forging research

Foundations, Charitable and educational

Foundry research

Gas research

Glass research

Government research

Heating research

Highway research

Industrial research

Lighting research

Lubrication research

Metallurgical research

Mineralogical research

Mining research

Oceanographic research

Operations research

Paint research

Paper research

Petroleum research

Pharmaceutical research

Physiological research

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Coal sampling
Gas, Natural—Sampling
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Sewage sampling
Soil sampling
Trade waste—Sampling
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Bituminous sand
Concrete—Aggregate
Oil sand
Sandstone
Silica

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- Sand reclamation can save you money. H. W. Zimnawoda. *il diags Foundry* 93:62-6 Je '65
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SAND and gravel plants**Equipment**

- American Aggregates solves depleted pit problem. *il Pit & Quarry* 57:140-1+ F '65
- Arvin Rock; a gravel plant designed for expansion. J. H. Bergstrom. *il diag Rock Prod* 68:68-70 O '65
- Automatic classifying tank helps Midwest Aggregate meet tightening specs. *flow diag il Rock Prod* 68:64-5 F '65
- Big service from small company; Tionesta sand and gravel co. B. C. Herod. *il Pit & Quarry* 57:107-9 D '64
- Blending system is simple and foolproof; West Sand & Gravel. J. H. Bergstrom. *flow sheet il Rock Prod* 68:82-3 S '65
- British Columbia gravel plant reflects attention to markets; Deeks-McBride, Ltd. B. C. Herod. *il Pit & Quarry* 58:82-5+ Ag '65
- Con Rock's new Durbin plant is tops in efficiency. J. H. Bergstrom. *flow sheet il Rock Prod* 68:44-51 Ap '65
- Conglomerate poses tough washing problem; Fordyce gravel co. J. H. Bergstrom. *flow sheet il Rock Prod* 68:72-3 S '65
- Five grades of sand blended automatically in this plant. H. F. Utley. *il Pit & Quarry* 57:105-6 D '64
- Florida sand producer makes wide variety of products; Gall silica mining co. W. E. Trauffer. *il Pit & Quarry* 58:86-7+ Ag '65
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- Jigs remove shale at Northwestern Gravel. S. Levine. *flow diag il plan Rock Prod* 68:72-5 Je '65
- Kaiser builds a versatile sand plant. J. H. Bergstrom. *flow sheet il Rock Prod* 68:76-7 S '65

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- New aggregates plant near Bakersfield, Calif. H. F. Utley. *il Pit & Quarry* 58:99+ O '65
- New Jersey firm makes wide variety of sand and gravel products; Fisher brothers sand & gravel co., Bayville. W. E. Trauffer. *il Pit & Quarry* 57:93-4+ Je '65
- New site + new plant = top service; Free-way concrete supply co. Kent, Wash. B. C. Herod. *flow diag il diag Pit & Quarry* 57:114-16+ F '65
- Progressive management boosts service capability; Yakima Cement Products plant. Yakima, Wash. B. C. Herod. *flow diag il Pit & Quarry* 58:118-21+ O '65
- Radical techniques highlight Florida sand plant; Melbourne sand & supply co. J. H. Bergstrom. *il Rock Prod* 68:76-8+ J1 '65
- Recognition for service boosts producer's growth; Russo sand & gravel co. B. C. Herod. *il diags Pit & Quarry* 57:128-33 Mr '65
- Small plant reflects big plant capability; Hood River sand, gravel and ready-mix plant at Cascade Locks, Ore. B. C. Herod. *flow diag il plan Pit & Quarry* 58:97-100 S '65
- Small plants can be efficient; Central Aggregates. J. H. Bergstrom. *flow sheet il Rock Prod* 68:84 S '65
- Three-prong approach helps small plant meet product needs; Purdy sand & gravel co. *il diag Rock Prod* 68:78-80 Mr '65
- Two washing plants supply aggregate to Cemstone's batching plant. S. Levine. *il diags Rock Prod* 68:74-7 Mr '65
- Union Rock splits wet and dry operations. J. H. Bergstrom. *flow sheet il Rock Prod* 68:80-1 S '65

Quality control

- Dravo corp.'s Ohio gravel div. develops mobile laboratory to service sand and gravel facilities. *il Rock Prod* 68:62-3 F '65

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- Citations for top sand-gravel operations in Bureau of mines 1963 safety contest. *Pit & Quarry* 57:88-9 D '64
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SAND and gravel plants, Portable

- Higher profits roll on wheels for B. L. Anderson, Inc. S. Levine. *il Rock Prod* 68:71-4 Ag '65
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SAND handling

- Transport trailer fills sand bags at Iowa flood site. *il Pit & Quarry* 58:53-9 J1 '65

SAND washing

- Conglomerate poses tough washing problem; Fordyce gravel co. J. H. Bergstrom. *flow sheet il Rock Prod* 68:72-3 S '65

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 Sanitary districts
 Sewage disposal
 Sewer cleaning
 Sewer design
 Sewer pipes
 Water pollution
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 Calcutta
 Charlotte, North Carolina
 Chicago
 Chicago Heights, Illinois
 Cleveland
 Fort Worth, Texas
 Godstone, England
 Hamilton, Ontario
 Hutchinson, Kansas
 Kingston, Jamaica
 London
 Los Angeles
 Memphis, Tennessee
 Montevideo, Minnesota
 New York (city)
 North Little Rock, Arkansas
 Nutley, New Jersey
 Olympia, Washington
 Pittsfield, Massachusetts
 St Louis
 Seattle
 Spokane, Washington
 Springdale, Arkansas
 Tucson, Arizona
 Valdez, Alaska
 West Palm Beach, Florida
 Wheeling, West Virginia
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Shafts

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Metal drawing

Metal spinning

SHEET metal work—See also—Continued

Pipes
Presses
Punching
Rolling mills
Sheet metal, Enameled
Shells (metal work)
Stamping
Stretching

SHEET metal work, Architectural

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Kaolin
Lead silicates
Magnesium silicates
Mica
Mullite
Pegmatites
Peridotite
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Pumice
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Telephone
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See also

- Case hardening
 Rolling (metal work)
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 Steel, Aircraft
 Steel, Structural
 Steel construction
 Steel forgings
 Steel ingots
 Steel metallurgy
 Steel plates
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Gravel
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Cold storage
Factories—Yards
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also subdivision Storage under special subjects, e.g.

Fish as food
Food
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Cleveland
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London
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Melbourne
Mexico (city)
Miami, Florida
Minneapolis
Munich
New Haven, Connecticut
New York (city)
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SULFUR trioxide

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Concrete—Temperature effect
Cooling
Curie point
Earth temperature
Electric cables—Temperature
Heat
Metals—Temperature effect
Ocean temperature
Petroleum—Well temperature
Softening points
Soil temperature
Stars—Temperature
Steam turbines—Temperature
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Control

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See also

Bolometers

Calorimeters and calorimetry

Pyrometers and pyrometry

Thermocouples

Thermometers and thermometry

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Petroleum shipping terminals
Ports

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American society for testing and materials
Impact
Magnetic testing
Sampling
Testing machines
Textile testing
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Aeronautical instruments
Airplane engines
Airplane parts
Automobile parts
Axles
Beams and girders
Bearings, Ball
Boilers

TESTING—See also—*Continued*

Bridges, Concrete
Cameras
Cams
Castings
Ceramic materials
Chromium plating
Concrete
Corrosion and anti-corrosives
Electric cables
Electric equipment
Electric lamps, Mercury vapor
Electric lines
Electric resistors
Finishing materials
Foundation soils
Gas meters
Gas turbines, Aircraft
Glass
Guided missiles
Hardness
Heat resisting materials
Hydraulic machinery
Internal combustion engines
Joints
Lenses
Materials
Metals
Milk
Mortar
Nuclear reactors
Paint
Paper
Petroleum products
Pipes, Steel
Plastics
Polywood
Polyethylene
Polymers
Refrigerators
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Gear testing machines
Textile testing machines

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Airports

Architecture, Domestic

Canals

Gas, Natural

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Rayon fabrics
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Fans. Mechanical

Fumes

Mine ventilation

also subdivision Heating and ventilation under special subjects, e.g.

Air raid shelters

Apartment houses

Automobiles

Churches

College buildings

Factories

Foundries
Gas appliances
Gymnasiums
Hospitals
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- Mines and mineral resources—Virgin Islands
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- Hydroelectric power
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WATER supply—See also—*Continued*

Louisville, Kentucky
 Manchester, England
 Milwaukee
 Minneapolis
 Montgomery, Alabama
 Naval bases
 New York (city)
 Oklahoma City
 Pecos, Texas
 Pendleton, New York
 Phoenix, Arizona
 Port Mansfield, Texas
 Portland, Oregon
 Raleigh, North Carolina
 Richfield, Minnesota
 Roseville, Minnesota
 Saigon, Viet Nam
 Salem, Massachusetts
 San Diego
 Santa Cruz, California
 Seattle
 Seldovia, Alaska
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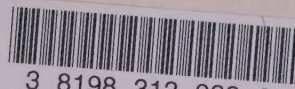
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